

# BUTANE-PROPANE *News*

JULY, 1953

**BPN**

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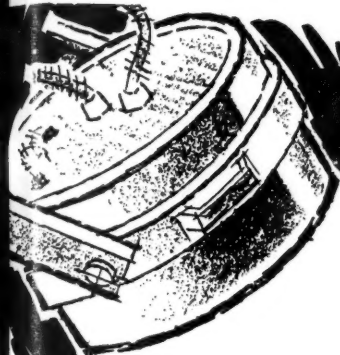


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*the spotlight is on*

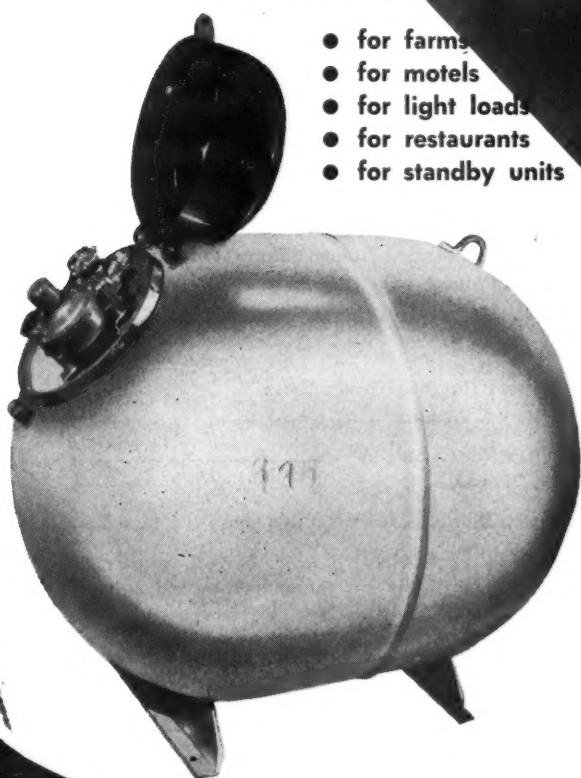
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JULY 1953

# BUTANE-PROPANE

NBP

## News

VOLUME 15 • NUMBER 7

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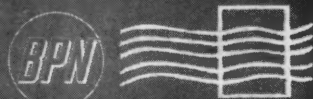
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# LETTERS

Headquarters

for L.P. gas Information

Since 1931



## North Dakota

We would like to get all available data on securing maximum CO<sub>2</sub> efficiency from propane furnaces, particularly the factory engineered jobs. We find many of these are very inefficient and would like particulars on how to improve them. Please supply what data you have and give all available references.

J.W.T.

The American Gas Association, 420 Lexington Ave., New York City, has some information on the subject of proper installation and adjustment of heating furnaces.

AGA-approved L. P. gas furnaces are designed, constructed and tested to operate at a minimum efficiency of 75%. Most of them do much better if correctly installed. Follow the installation and adjustment instructions carefully.

The percent of CO<sub>2</sub> in the flue gases as they leave the furnace proper and enter the draft hood should be about 9% for propane. Properly designed heaters do not depend on vent draft to draw the products of combustion from the combustion chamber. The vent is to pick up the products of combustion as they enter the draft hood and carry them outside. (See letter published in May issue of Butane-Propane News).

The Bacharach Industrial Instrument Co., Homewood Station, Pittsburgh, Pa., manufactures a small, easily operated CO<sub>2</sub> gas analyzer for checking the percent of CO<sub>2</sub> in flue gases. Instructions and general gas analysis information are included.—Ed.

## Honduras

As I want to be very sure about the following matter, I would thank you to let me know how many cylinders of 100 lbs. capacity for propane gas, can be filled from a skid tank of 500 water gallons capacity where the temperature is about 85 degrees F.

S.S.A.

The following computations are based on the assumption that the 500 water gallon capacity skid tank will hold exactly 500 gallons of water and that it is filled accurately, so that under the conditions which you have set forth it will contain the maximum permissible quantity of fuel. It is also assumed that filling of the tank and cylinder is by weight.

Reference is made to Pamphlet No. 58 of the National Fire Protection Association, paragraph B.11, or to the Handbook Butane Propane Gases, page 289, which specifies filling densities. Filling densities are based on weight, so the temperature does not enter into the determination of the weight of fuel in the tank.

Since propane has a specific gravity between .504 and .510, the filling density for aboveground tanks of 0 to 1200 gallon capacity is 42%. The weight of a gallon of water at 60°F = 8.328 lbs. Then the weight of L. P. gas in the tank is 500x8.328 lbs.x.42 = 1749 lbs. of propane. However, all this propane cannot be transferred from the 500 gallon container into the 100 lb. cylinders unless there is some method provided to transfer the vapors, too. Vapors boil off from the liquid to fill the vapor space.

The saturated pressure of propane in a storage vessel at 85°F is 138 lbs. gage or 153 lbs. absolute, and the vapor in the tank, theoretically at least, will be at this pressure as the last bit of liquid is transferred. If this vapor could all be removed and condensed it would be equivalent to

$$500 \times 520 \times 153 \times 1 = 77 \text{ lbs.}$$

$$7.48 \quad 5.45 \quad 14.7 \quad 8.62$$

where:

500 = water capacity of the tank

7.48 = gallons per cu. ft. of volume

545 = absolute temperature equivalent to 85°F

520 = absolute temperature equivalent to 60°F

153 = pressure in storage, lbs. per sq. in. absolute

14.7 = atmospheric pressure at sea level

8.62 = cu. ft. vapor per 1 lb. liquid propane

Then the number of 100 lb. cylinders that can be filled from the above tank under the conditions given is

$$1749 - 77 = 1672$$

100

It is doubtful if you will be able to fill exactly this number of cylinders because the above computations are based on pure propane, whereas the product you receive is a commercial product and may contain some propylene, butane, ethane or other hydrocarbon products which change the characteristics of the fuel. Also the tank may not have a volume of exactly 500 gallons. However, it will give you an idea of what you can reasonably expect.—Ed.

## Minnesota

I read your article in the May issue of "Butane-Propane News" about ignition timing problems with a great deal of interest. It was a very well written article and it will give us a lot of help in the future.

However, there is one problem that comes to mind. In following the instructions sent out by one company, we short out three plugs and use a tachometer to obtain the highest reading when setting the load adjustment screw. Would you recommend timing this tractor first, or setting the load adjustment screw first? Or is it necessary to check timing and load adjustments more than once?

E.O.K.

We believe it is best to set the load adjustment screw before setting the ignition timing.

The reason is as follows: Within a rather broad range of ignition timing, the same load adjustment setting will show the highest reading on the tachometer, so you can get the air-fuel ratio right even though the ignition timing may be wrong.

If you were to set the ignition timing first, and the mixture happened to be lean, your ignition setting could be wrong. Lean mixtures burn more slowly than correct or rich mixtures, so there is the chance that the timing could be too far advanced if the ignition is set before adjusting the mixture.

The above explanation also takes care of your second question. If you set the load adjustment before setting the igni



## TELL US, MR. BARBER...

President of Southern Gas Corporation

*How You Are SAVING MONEY,  
MAKING MONEY*

with

# ROCKWELL

## LP-GAS

## METERS



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# PAYS

Just as Rockwell LP-Gas meters have paid dividends to Mr. Barber, so can they help you reduce operating costs, boost gas and appliance sales, increase profits.

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Thousands of installations have proved their durable accuracy, their economy in service. Write today for catalog and price list.

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WORLD'S FINEST GAS APPLIANCE

### Southern Gas Corporation

LAWRENCEVILLE HWY. • TUCKER, GEORGIA • TELEPHONE 3-7121

February 11, 1953

Rockwell Manufacturing Company  
Pittsburgh 8, Pennsylvania

Gentlemen:

You have asked for my opinion in regard to metering. The fact that we are now making meters available to both old and new customers speaks for itself.

With us, metered service is the "preferred service". We prefer it because meters help reduce our operating costs. With meters we don't get "out-of-gas" phone calls at all hours. We have more efficient truck routing and we have been able to increase our overall storage capacity.

Our customers seem to like meters. I think that is because they trust the meter reading and can pay for the gas as they use it in small regular payments instead of getting hit with a bill every time a cylinder is changed.

Yours truly,

SOUTHERN GAS CORPORATION

*Sam I. Barber*  
Sam I. Barber, President

SIR/zj



You Can RELY ON ROCKWELL

### ROCKWELL MANUFACTURING COMPANY

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tion timing, you need only do the job once. If you set the ignition timing before adjusting the load mixture, you will need to recheck the ignition timing to be sure it is correct.

This applies to all other makes of carburetors.

Some makes of L. P. gas carburetors have separate adjustments for the "economy setting". This should be set just before or just after making the power setting, depending on the way the carburetor is built. The procedure for each make is given, in step-by-step sequence, in the "Butane-Propane Power Manual."

With all makes of carburetors, we believe the adjustment of the idling speed and mixture ratio should be the last step. This is also standard tune-up procedure with gasoline carburetors.—Ed.

## New York

We shall appreciate it if you will let us know if ICC 3B 300 cylinders may be filled with liquefied petroleum gas. S.F.B.

Yes, ICC 3B 300 cylinders may be used for liquefied petroleum gas, according to Paragraph 73.312 of the ICC regulations covering containers for L. P. gas.

The 300 following the 3B designates the working pressure of the cylinder.—Ed.

## Iowa

We would like to know if you can inform us how much of the cylinder heads should be milled off on a 1953 Oliver 77 and Oliver 88. How much will it increase the power of this unit?

Also, can the cylinder heads be milled off on these units?

A.A.B.

We hesitate to recommend planing the cylinder heads in the 77 and 88 model Oliver tractor engines, and would suggest that you telephone the factory at Charles City, or write a letter and see what information you can get direct from the manufacturer.

They may be in a position to supply altitude pistons suitable for use with gasoline at from 8000 to 10,000 feet elevation, and the installation of these would provide a great improvement when operating on propane.—Ed.

## Wisconsin

Please inform effect of CO<sub>2</sub> from non-vented propane heaters in greenhouses. B.C.

In general, it is believed that the CO<sub>2</sub> in the products of combustion from gaseous fuels (including L. P. gas) produce no ill effects on plants.

However, it has been observed that orchids seem to suffer from a respiratory ail-

ment when unvented gas heaters are used, and either lose blooms already started or fail to bloom.

Whatever enclosure containing plant life is being warmed by unvented gas heaters must be adequately ventilated the same as a room wherein animal life lives, or the plant life may be damaged. Cases are on record wherein plant life has been dam-

aged because of inadequate ventilation.

It must be considered that there is a large amount of water vapor produced in the combustion of fuel, and also, some carbon monoxide may be formed when the oxygen becomes depleted, if there isn't enough fresh air available. There is also a trace of sulphur dioxide formed due to sulphur in the fuel or from odorants used.—Ed.

TABLE 1

Year	Gallons Handled	Gallons Lost	% of Loss
1948	1,203,853	54,894	4.6
1949	1,307,625	11,209	.8 of 1
1950	1,404,199	63,510	4.5
1951	1,976,586	58,231	2.9
1952	2,586,131	69,100	2.7

## Missouri

Could you please furnish us with the national average on percentage of gas lost due to handling? We are listing in Table 1 number of gallons lost, percentage of loss and total number of gallons handled for the last five years.

About 90% of the total gas handled was propane; the other 10% butane. At the present time we do not use a compressor to unload the propane from the tank cars into our bulk storage plants. We do use the compressor to unload butane cars. Do you have any figures on number of gallons left in a 10,000-gallon capacity car of propane if the compressor is not used?

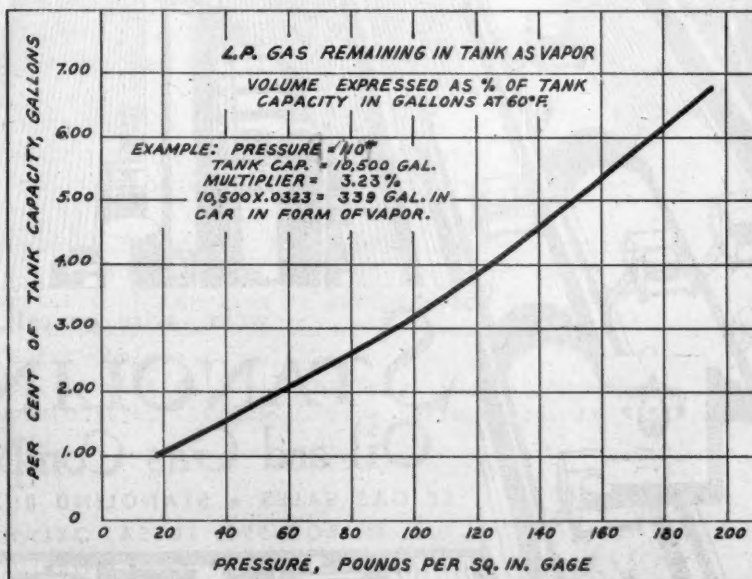
C.B.B.

We do not have any data which indicates the national average on the percentage of gas lost due to handling.

Some dealers and distributors complain that they have discrepancies which approach 10%. Others claim very low losses. From reports that we have received, it is believed that the percentage figures you have included are about average, or a little below, for the last two years.

Since you have the compressor we think it advisable to use it for unloading propane, even more than butane, because pressures are higher and more vapor remains in the tank car.

The accompanying graph will help you determine the quantity of L. P. gas which is left in a vessel. It is generally not economical to remove propane vapors from a car after the pressure is reduced to from 25 to 40 pounds. Therefore, the quantity in the car at the finish pressure should be calculated and deducted to determine the amount of fuel recovered.—Ed.



# LP GAS

Modern, conveniently located plants . . . sound business integrity . . . top quality products, always "on spec" . . . and trained technical personnel to help with *your* problems . . . Be "SURE" — and specify an LP-Gas which is . . .

*Always*  
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— write, wire or call

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**Oil and Gas Company**

LP GAS SALES • STANOLIND BUILDING  
P. O. BOX 591, TULSA, OKLAHOMA



JULY



## Editorial Comment

FIGURES JUST IN give evidence that 1953 will mark another milestone along the rising and shining road of LPG progress. Domestic and foreign demand for LPG for the first three months of this year ran 8.7% ahead of the same months last year--a total of 1,344,252,000 gallons (1953) against 1,236,460,000 (1952).

This tremendous, continuing rise may well portend the demand yet to come from the growing use of LPG.

PROOF that a little customer education can go a long way in making sales recently occurred in the state of Washington. A customer walked into a farm implement dealers's store, bought his first LPG tractor and departed quickly, after saying: "I've been studying the advantages of using LPG for farm operation for several months. I'm completely sold." He left the salesman not only frustrated but speechless.

GAS WATER HEATERS AND RANGES chalked up an impressive sales increase for the first four months of this year as compared with the same period last year. Total range shipments hit 817,000 units--a 16.8% increase over last year, while water heaters totaled 797,500 units--a 32.7% gain over 1952. With 25% of these new units going into the LPG industry, it is easy to see why LPG demand continues to climb steadily.

IN THE JUNE ISSUE we told about the Oregon firm which used the backs of its envelopes for industry advertising--with good results.

Now comes Raymond Rains, Louisville, Ky., and he gets the prize. Not only the back of his envelope but half of the front tells those to whom he writes what services he performs and the appliances and fuel he sells. He says this has given him fine returns at little additional cost.

May be firms who fail to utilize their envelopes in this manner are losing real opportunities for publicizing their wares. It could be worth a try.

*Ed.*

# MORE MONEY FOR YOU from Automatic Gas Heating Sales

Pick up extra profits by selling Automatic heating with space heaters equipped with the new, streamlined **ROBERTSHAW® 2-EC** throttling type heat control. An adjustable by-pass set at the time of installation maintains a minimum flame over the main burner at all times, assures more

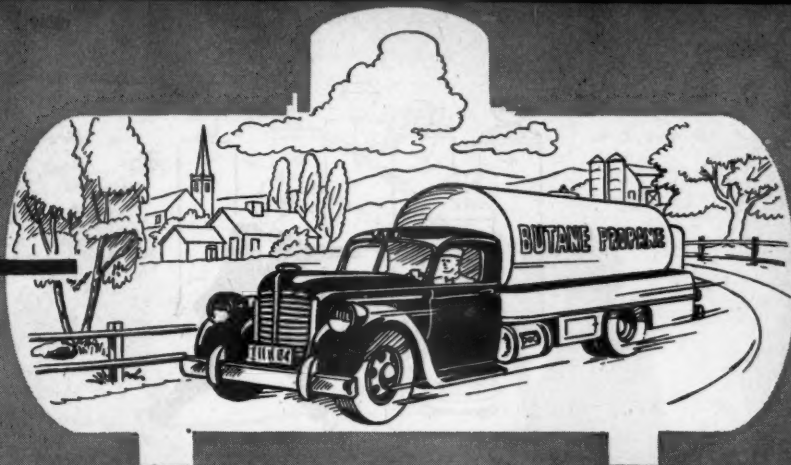


even distribution of heat and continuous air circulation that helps overcome the "cold 70." Model 2-EC is equipped with a thermo-electric automatic pilot. Should pilot failure occur the magnet automatically releases and provides 100% shut off of all gas. *Write for full information.*

**Robertshaw-Fulton**  
CONTROLS COMPANY

ROBERTSHAW THERMOSTAT DIVISION  
YOUNGWOOD, PENNSYLVANIA

# BEYOND THE MAINS



## Who's Doing What To Whom?

The LPGA convention opened, deliberated, acted, and passed into history. On the closing night eight of the soberer heads sat at a table in the big dining room of the Conrad Hilton, and planned how to meet the inroads of the electrical industry into the field that should rightfully be served by L. P. gas.

One week later the Chicago Electrical Show drew to a close at the same quarters. Eight of their soberer heads sat at the same table, engaged in profound planning. About what? How to meet the inroads of the L. P. gas distributors into the field that should rightfully belong to electricity.

## The Case of the Unconverted Taxicab

During the recent Chicago convention, the American Taxicab Association let loose a blast that contains food for thought.

They point out that the taxicab industry includes more than 10,000 fleets, and offers a potential market for 625 million gallons of gas yearly. This is a steady demand, without noticeable seasonal variations. According to the Association figures, 61% of the taxi operators are interested in the possibilities of using LPG instead of gasoline.

The direct object of the Taxicab Association's presentation was to secure advertising in its publication, the "American Taxicab Journal," from manufacturers of equipment used in converting taxicabs from gasoline to propane. On this we have no comments or suggestions.

We do believe it is appropriate to note that advertising cannot carry the entire burden of selling technical equipment. A follow-up

through personal salesmanship is also necessary. Who is going to do it?

The equipment manufacturer makes a one-time profit on the sale of his item. The LPG distributor who has the agency for conversion equipment makes a similar one-time profit on the sale of the equipment, plus a continuing profit on the sale of the fuel. Let's look that fuel sale in the eye, and see what it amounts to.

The average taxicab operates close to 100,000 miles per year, and consumes nearly 10,000 gallons of fuel. In terms of domestic consumption, that one taxi is equivalent to about 15 customers. A 10-cab fleet consumes as much fuel as 150 domestic customers. How much effort would you put forth to secure 150 new domestic customers, particularly if they could offer you a steady year-round demand?

And look at the comparative cost of making deliveries. The 150 customers would require about one-third of the full time services of one delivery truck, requiring thousands of miles of truck operation. Driver's salary, accounting, service complaints, all add to the cost of handling the accounts.

With one 10-cab fleet, 2000 gallons per week go into one tank. Possibly two deliveries per week take care of it. Mileage reduced. Driver's time reduced. Bookkeeping costs reduced. What does that do to the profits?

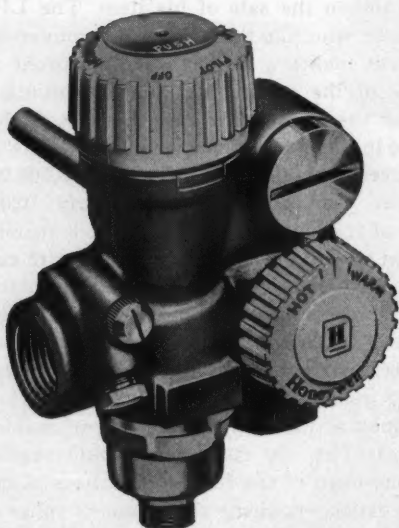
Suppose you do not have, and do not want, an LPG carburetion equipment agency. There is one nearby with which you can work. It is still worthwhile, from the standpoint of gas profits alone, to get these cabs converted. The taxicab business is a golden opportunity, wherever propane can be sold in bulk at a price that is competitive with gasoline.

*Karl Abell*

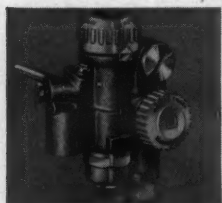




## Why "Honeywell-designed" controls assure top gas water heater performance



The "20"—Model V-5120 is the star performer in this big new line of Honeywell water heater controls. It provides complete 100% control for natural, manufactured or LP gas! Main gas cock with pilot position, main burner pressure adjustment and the thermomagnetic pilot with 100% shut-off are all included in this compact control.



The "21"—V-5121 is designed to take up minimum space for use as a concealed control. It includes main gas cock with pilot position; main burner pressure adjustment; thermomagnetic pilot with 100% shut-off.



The "19"—Use V-5119 for natural or manufactured gas. (Not for LP gas.) Includes thermostat; main gas cock with pilot position; pilot adjusting screw; main burner pressure adjustment; thermomagnetic pilot.

Honeywell, world-leader in the manufacture of precision temperature controls, has applied all their control-making experience in designing these new gas water heater controls. They are made to maintain selected temperatures constantly; to light the burner safely and automatically; to provide "positive shut-off" in case of pilot failure.

These new Honeywell Controls are precision-made of fine quality materials and each is exhaustively factory tested to insure excellent performance when installed. This often helps reduce the number of service calls received for minor adjustments.

Also, you'll find Honeywell-equipped heaters have an extra sales feature, too! Prospects know the name Honeywell stands for quality and accuracy, and thus they're easier to sell!

So be sure to order Honeywell-equipped water heaters! Then watch these fast-selling, trouble-free models boost your gas water heater profits! Call your distributor or mail the coupon below.

### MINNEAPOLIS Honeywell



*First in Controls*

**Another extra! Styled by Henry Dreyfuss!**

Look at the sales appeal the colorful, smart styling gives these new Honeywell Controls. Nationally famous industrial designer Henry Dreyfuss, working with Honeywell, helped make these controls a smart, attractive addition for any water heater. That's why Honeywell-equipped models reflect top quality at first glance—stand out from other models on the sales floor.



MINNEAPOLIS-HONEYWELL REGULATOR CO.

Appliance Controls Division, 8775 Mettler Street, Dept. BN-7-144  
Los Angeles 3, California

Please send me detailed information on your complete line of gas hot water heater controls.

Name.....

Address.....

City..... Zone..... State.....

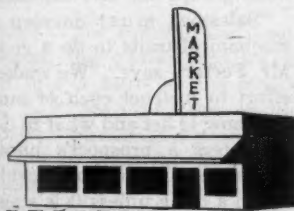
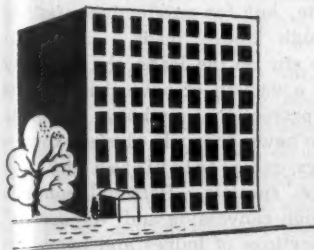


exclusive



## Your Best Heating Prospects Are Among Present Gas Users

By Lee A. Brand



**W**HAT is the potential of the L. P. gas heating market?

How can dealers sell it?

And after the customers are sold, how can dealers balance that hefty heating-season load?

If you are eying the house heating market, these are the basic questions to grapple with. To get some practical answers, we can research the market and study the operation of successful L. P. gas heating dealers.

In potential, the "beyond the gas mains" heating market has shown thumping good signs of health. Rural

incomes are up. Small towns have proved to be headquarters for building activities. And a decided population shift to suburban areas is swelling the list of prospects for L. P. gas automatic heating service. The market picture looks very promising.

From a mark of \$25 billion in 1945, farm incomes are expected to soar to \$40 billion for 1952 when final figures are released. The farmer's average income in 1950 was more than \$11,000 and when final returns are in for 1951, it should be up 14%. Another indication of the farmer's

well-heeled status is the fact that seven out of 10 own their homes and the average size is 6.2 rooms.

Many "better living" changes have already appeared as a result of the farmer's economic improvement, according to a survey by *Capper's Farmer* magazine. Since the war, 71% of the farmers have modernized their kitchens, 52% have installed L. P. gas systems and 28% have food freezers that average 14 cu. ft. and cost \$400!

But among the 52% of the farm homes that added gas service, less than half use "the modern fuel wherever you are" for heating. There is a big, ready-made heating market among farmers who already have L. P. gas systems! Add to their number almost half of the farms in the country that are virgin territory for any L. P. gas installations, and you get the complete farm potential.

## Small Town Is Big Market

How important is the small-town heating market? *Capper's Farmer* demonstrates its standing by pointing to the concentration of lumber yards and building material dealers in communities under 25,000 population. Three out of four of these construction headquarters are located in small towns, handy for the majority of their customers and prospects.

Items handled by lumber yards are closely connected with both the new construction and remodeling market. They account for a whopping big 61% of the building industry's dollar volume. From their strategic small community locations, they are helping themselves to a juicy bite of the building pie.

A survey of readers of *Household*, a consumer magazine primarily reaching small town homeowners, showed that 76% of the small town people own their homes. These folks have more income money available for home improvements, too. Homeowners in metropolitan areas carry a mortgage debt in 61% of the cases, compared with only 38% in small towns and cities. The small town market has lots of financial pep.

The big news about the suburban market potential is the population



Lee A. Brand

Vice President, Empire Stove Co.  
and Chairman, National  
Committee for LP-Gas Promotion  
Belleville, Illinois

shift to these outskirts of metropolitan areas. As this fringe area expands so can flexible L. P. gas heating service expand to match the shift.

Nearly half of the population increase of the entire country since 1940 took place in the outlying parts, according to Uncle Sam's census takers. Increasing urbanization of the country is evident, with the more spectacular development in smaller urban and suburban communities adjoining metropolitan centers.

These city people are accustomed to the most modern living conveniences. They don't want to give up metropolitan living comforts. They want country charm, PLUS city conveniences. If told about it, they will order the "take-life-easy" comforts of L. P. gas—particularly dependable and automatic heat—when the mercury goes into winter hibernation.

## Heat Is "Door-Opener"

Some dealers have already reported that heating is moving up the ladder as a "door opener" for the installation of L. P. gas service. J. Richard Verkamp, vice president, The Verkamp Corp., Cincinnati, Ohio, said recently that heating now heads the list in his area, having replaced gas ranges as the "first" appliance purchased most often by homeowners.

Now let's take a look at the way some of the successful dealers sell L. P. gas heating.

J. W. Gaughan, retail sales manager for Fuelite Natural Gas Corp., Lexington, Mass., says the key to

new heating sales is the satisfied user. "Most people in small towns and on farms know each other," he points out. "Word passes rapidly when a satisfied user tells his friends of his experience in using a floor furnace."

The lower year-round gas price available to heating customers who also use L. P. gas for water heating and cooking is of prime interest to the user, Mr. Gaughan has found. "This lower rate shows a reduction in operating costs for the ranges and water heaters. When these savings are applied against costs of operating floor furnaces, the heating equipment sale is definitely helped," he said.

Kohn Bray, Marked Tree, Ark., dealer, hammers home four sales advantages of L. P. gas heating when talking with prospects. He tells them:

1. Gas heat is the safest (and uses statistics to prove it).
2. Gas heat is more convenient—even more luxurious—than any other type of heat.
3. Gas heat is most economical both from fuel cost and equipment maintenance standpoints.
4. Temperature control is more accurate.

The method of compensation for heating salesmen is the first thing to consider, according to A. J. Ferrara, president, Standard Heating Co., Minneapolis. His company has tried several methods and found that "strictly commission" is best. In general, he believes that salesmen must be paid not only for business they create, but for production attained through "house" leads.

To stir up the leads, the company uses a variety of advertising media and promotional methods. These include newspaper ads, shopper-throws, radio, television and "off-season specials." Personal contacts through canvassing and "exposures" at meetings of lodges and neighborhood groups are also exploited.

"Salesmen must develop certain mechanical traits to do a good job," Mr. Ferrara says. "We make every effort to instruct each of our salesmen how to act and what to do when he enters a prospect's home. The best sales story in the world is not worth a thing unless it is staged and



presented properly. Once we have developed these traits, we turn to training salesmen in the presentation of their product sales story.

His company's finance plan has proved to be "a powerful sales tool." If the salesmen know how to use it, it can really help close sales, Mr. Ferrara pointed out. Home heating modernization delivers customer benefits for many years, so payment can be extended over a period, as with the purchase of the house.

## 90% of Homes Under-heated

Harold F. Richards, Algiers Appliance Heating and Plumbing Co., New Orleans, La., reports that, on 90% of their calls, the homes are under-heated. "In a lot of homes down here, 85,000 Btu's are required to do the job, but the houses have only 50,000 Btu capacity. We explain that it is cheaper to operate 85,000-Btu equipment because the heating job is done quicker and gas consumption cut off quicker."

With the auxiliary equipment, the heavy usage is taken off the original unit. Proper placement of the new, secondary unit can also give better heat circulation throughout the home, Mr. Richards tells heating prospects.

For a round-up of basic sales points about L. P. gas heating, be sure to get a copy of "How to Sell LP-Gas House Heating." Published by the National Committee for LP-Gas Promotion, the information, sales tactics and "how to sell" pointers are the product of the experience of many L. P. gas heating dealers, manufacturers and engineers.

The heating booklet is one of a series of eight training booklets. Each has the down-to-earth objective of helping your salesmen serve Mr. and Mrs. Prospect more effectively.

After the customer is sold, the dealer is confronted with that lopsided headache! How do I balance the load?

Because of the concentrated heating season, the consumption is lumped into a four- or five-month period. L. P. gas production on the other hand continues at a steady rate throughout the year. Supply and demand soon get out of step. Facilities are strained to make deliveries. Con-

sumers can run out of fuel when it is most needed. And the dealer can wind up with a black eye in the community.

Until recently, this roller-coaster demand was troublesome enough to discourage many L. P. gas dealers from going beyond the "feet-wet" stage of the heating business.

Now, after exhaustive research in the field, and consultation with weather experts, inventory control specialists, economists, producers and all types of dealers, the LP-Gas Information Service has devised a simple, workable answer.

The industry's adequate storage program, now in its second year, has already helped reduce the industry's peak load problem.

## Time To Turn On Heat!

This month's issue of "Butane-Propane News" is largely devoted to special articles dealing with space heating. These articles are presented to help dealers prepare sales and promotion campaigns now so as to better tie in with the national LPG advertising and promotion.

Scheduled to start in August, the 10th round of advertising and publicity by the National Committee for LP-Gas Promotion will feature the comfort, convenience and dependability of LPG for house heating. The campaign will run in more than 50 leading national, regional and state magazines.

Sell heating EARLY — order equipment EARLY — avoid delivery delays and order cancellations which occur during the "rush" season!

Briefly, the adequate storage program has the following objectives:

1. One-to-one ratio of winter vs. summer deliveries.
2. Protection for the consumer against shortages during periods of peak use.
3. Provide the consumer with adequate storage for his own requirements, but no more.
4. Flexible delivery system for the dealer.
5. Greater standardization of storage tank sizes.
6. Practical storage-sizing formula, simple and adaptable enough for the dealer to be useful in any combination of farm or home loads.

The program is national in scope. Folders have been printed to help sell consumers on the necessity for adequate storage. The tell the facts about L. P. gas storage simply and interestingly.

For LPG dealers, a "Storage and Ratio Manual" has been prepared that explains how to figure adequate storage for each customer. The handbook analyzes L. P. gas production and consumption on both a national and consumer level and tells dealers how they can make same-size deliveries of fuel at regular intervals.

Crews and delivery equipment can be kept busy all year. Summer uses should be developed to push up the summer-time slump in the consumption picture. The net result is an orderly distribution of fuel, greater volume with reduced operating costs and, most important from the long-range public relations standpoint, good service to customers.

## Adequate Storage Important

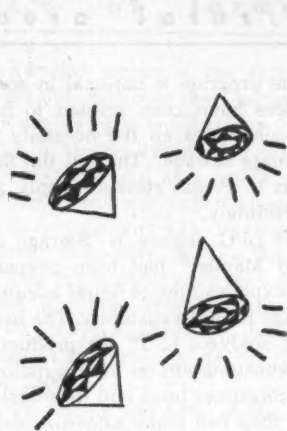
For more information about the adequate storage program, write the LP-Gas Information Service, 11 S. La Salle St., Chicago. For company and regional industry meetings, a sound-slide film, "Facts About LP-Gas Storage," can also be obtained.

The adequate storage material is just one of many returns to dealers investing in the industry's promotional program. Local advertising materials that harness the power and prestige of national advertising can also be purchased.

With it, aggressive dealers can identify their business with the colorful ads running in such magazines as *Saturday Evening Post*, *McCall's*, *Better Homes & Gardens*, *Country Gentleman* and *Farm Journal*. The identification can put even more pep into the industry's high-octane promotional engine.

Watch for the ads on L. P. gas heating scheduled for publication this summer. Cut them out of the magazines and mount them in your showroom. Also, use the local-level advertising materials offered to you.

The heating market is a good one. Aggressive dealers can sell AND service it properly, and thereby add substantially to their total fuel volume.



IN TWO PARTS  
PART ONE

## Acres of Diamonds in Your Own Backyard

By Malcolm M. Scott

Ruud Manufacturing Co.  
Pittsburgh, Pennsylvania



THE purpose of this article is to show you, the L. P. gas distributor, why you *should* sell more L. P. gas water heaters and how you can sell more—and in all competitive situations.

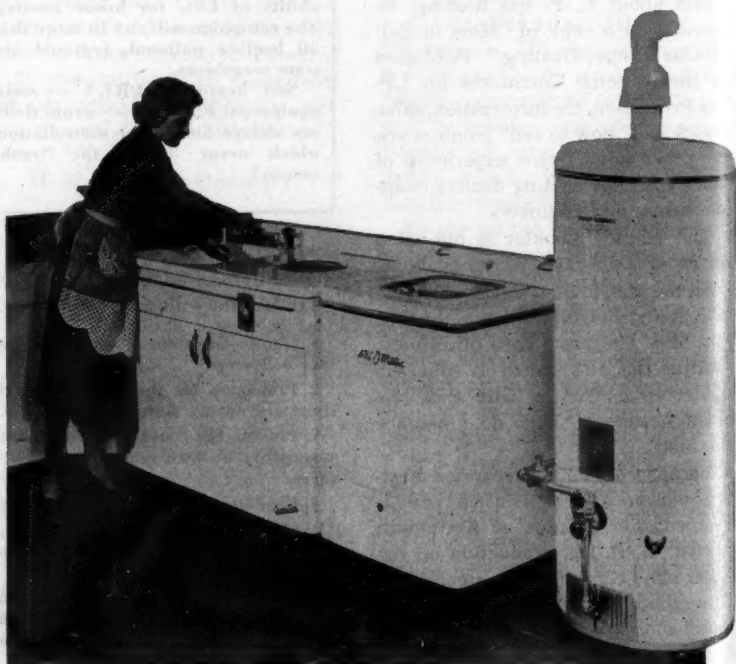
Every article needs an introductory story. This is it.

In that approximate period known as the gay nineties, Russell Conwell found national fame. He was a Baptist minister first, a popular lecturer second. His lectures were many, but one was far and away the most popular. Russell Conwell delivered it

over 6000 times and with its earnings started a great educational institution, Temple University of Philadelphia.

That lecture was called "Acres of Diamonds." Its punch line was simply this: *you can find more wealth in your own backyard than by traveling all over the world.*

Apply this philosophy to your own business and it means that you can make more money for yourself by building up the revenue from each present customer than by increasing the number of new customers. More



specifically, there's more prosperity for you in a two-appliance customer than in a one-appliance customer. And more to the brass-tacks point—that a customer with a range and a water heater will bring you more net profit than a range-only customer.

Where are these range-only users that can be made into two-appliance customers with automatic L. P. gas water heaters? They're on your books now! They're the "acres of diamonds" that are right in your own backyard!

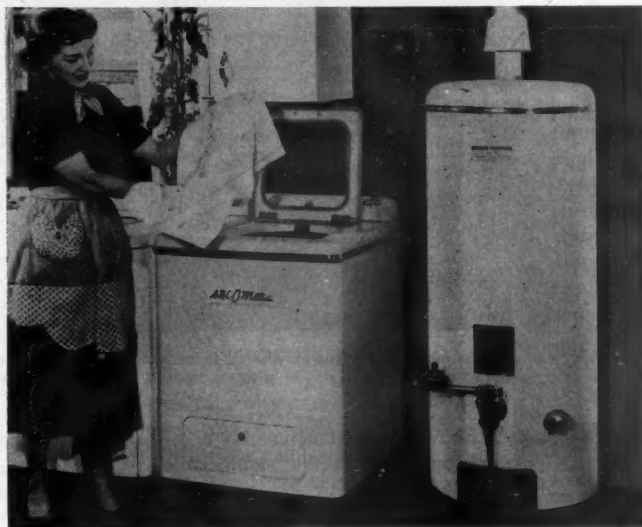
The range-only customer has been largely responsible for the sensa-

of course, but not enough to protect the market from electric competition. Ratio of sales of L. P. gas water heaters to electric water heaters—.31 in 1951, up to .37 in 1952 and back to .34 in the first quarter of 1953—is not too promising.

Make no mistake—the battle is still on. It's an important battle, too, for the sale of every electric water heater not only stops the sale of a revenue-producing L. P. gas water heater but makes the L. P. gas range highly vulnerable to electric replacement because of 240-volt special wiring, possible obsolescence of the

is smaller or larger, is merely a matter of arithmetic. You should know your own exact ratio and your exact market for water heater sales. Whatever it is, you can be solidly sure of one thing—the market is large, live and responsive—and it's right in your own backyard!

Your own personal sales advantage in cracking this backyard market has few parallels in the appliance industry. You know these customers and they know you. You or your employees see them regularly. They regularly write checks in your favor; they're used to doing business with



Only gas has the speed and flexibility to keep step with the modern washer, assuring cleaner, whiter, germ-free washes.

tional growth of the L. P. gas industry. It was the foot-in-the-door appliance, the introductory equipment that sold the L. P. gas idea to millions of homes.

There is no intent here to lessen the necessity for constant expansion of the L. P. gas market by winning new customers, nor to question the importance of the gas range in this vital work. But there is intent here to point out that if the L. P. gas industry relies on a range-only market too long, it will surely and certainly lose that market.

The range-only customer built the business and he may destroy it! That many L. P. gas distributors realize this is shown by increased water heater sales—262,900 units in 1951; 268,800 in 1952, and 69,500 for the first quarter of 1953. That's progress

present gas range, electric cookery glamor and other factors.

Of this you can be sure—when you install an L. P. gas water heater in a customer's home, you've put a mile-wide road block in the way of the electric range salesman.

At the end of 1952, there were by conservative estimate, 6,600,000 L. P. gas users. Practically all have gas ranges. L. P. gas water heater owners are probably about 1,750,000, a saturation of a little over 25%. This national market can absorb up to 4,850,000 automatic L. P. gas water heaters.

National figures are always interesting, but the figures that count are those of your own business. Whether your ratio of water heater owners to total customers is 1 to 4, matching the national average, or whether it

you. You have their confidence. You've probably been in their houses, know the water heater they now have and its limitations, what they think of it, what their hot water needs are and why they're best met with an L. P. gas water heater. You may know all family members and how to secure their help in making the sale. You're a friend and neighbor, and for these and other reasons you have a big head-start over the merchant who has done little or no business with these customers of yours. You can sell them in less sales time and at lower sales cost. You're in a preferred sales position!

The range-only customer, once your source of profit, is now more often than not a red ink entry on your P. & L. statement. Costs of gas, equipment and labor have risen beyond the point where you can make fully compensating adjustments in



your gas rates. But the sale of a water heater to a range-only customer can quickly change his status from red to black. Little or no increased investment is required to care for his increased gas consumption. For a bulk (tank-truck) distributor the addition of the water heater means that per pound or per gallon delivery cost to this customer has been decreased by at least two-thirds. The cylinder delivery distributor has at least tripled his rate of cylinder turnover. Under either system the addition of the water heating load materially lowers both unit delivery and overhead costs.

### Profitable Load

The water heating load is a profitable one. It's a steady, dependable year-round load without peaks and valleys. It's something you can count on each and every month. In those homes without central L. P. gas heating it's generally the largest annual load. When you sell a water heater to a range-only customer, you multiply his gas consumption by three or four. Change your water heater saturation from zero to 25% and you approximately double your gas sales volume. You're in a *preferred profit position!*

This is truly an automatic age. The housewife wants automatic devices, and the inventor and manufacturer are working overtime to see that she gets them. From her viewpoint, appliance and operating costs are secondary to automatic service. An outstanding example is the automatic clothes washer, with 300,000 in use in 1941 and with more than 5½ million in use today. Today its yearly sales in units and dollars exceed those of conventional non-automatic and semi-automatic washers. The automatic gas water heater—over 15 million in use, of which 1¼ million are L. P. gas water heaters—is a hard-working, satisfaction-delivering, ever-faithful servant for the entire family, on duty 24 hours of every day. It's a No. 1 good-will builder for every L. P. gas appliance. With each sale you speed the day when your customers will have a fully automatic L. P. gas home—automatic water heating, automatic cooking, automatic refrigeration, automatic laundering, automatic heating and automatic air conditioning. You're in a *preferred load-building position!*



Smiles replace frowns when a homemaker replaces a slow-recovery water heater with a modern L. P. gas model.

The range-only customer is highly vulnerable to electric competition. Knowledge of your loss may come unexpectedly when you find the old gas range replaced by an up-to-the-minute electric range and perhaps because of the needed 240 volt, three-wire system, by an electric water heater also. With a modern automatic gas water heater in the home, you can be sure the customer would think long and seriously before making the change—and in any event, you would very likely have the opportunity of presenting the advantages of an up-to-date gas range. The automatic L. P. gas water heater is *customer insurance!*

That's the *why* of selling L. P. gas water heaters. How about the *how*?

### Sales Help Is All Around

First of all, consider the sales help you're getting. Millions of people and millions of dollars are working right now to help you sell automatic water heaters without a lift of your finger and without the expense of a dime.

Why? Because hot water is a basic essential of health and cleanliness,

and the forces promoting health and cleanliness are almost beyond belief.

Witness the tremendous postwar growth in health and cleanliness education and facilities. Count as your allies all the health centers, mobile health units, health inspectors, visiting nurses and all the rank-and-file contributors to health advancement. Make note that American cleanliness standards are higher than ever before, cleanliness education greatly expanded, cleanliness habits stronger, cleanliness methods easier and cleanliness equipment and products within the reach of all.

### Who's Helping You Sell?

Know the truth of the statement that nobody can be healthy without cleanliness, and nobody can be clean without hot water.

Children are learning the value of hot water in their schools.

War brought the importance of hot water into sharp focus for millions in our armed services because of military emphasis on personal cleanliness.

Industry, spurred by war-time emergencies, learned that worker

morale is higher in plants with modern hot water facilities.

In government and other housing projects, automatic hot water service was introduced to millions who had never experienced it before.

Public health protection by laws requiring hot water at specific temperatures in restaurants and other commercial establishments has become standard in practically every state.

Manufacturers of equipment and products used with hot water are your strong allies. Every bath tub, lavatory, clothes washer, dish washer, mop, scrubbing brush, razor blade and cake of soap sold impresses the importance of hot water on the public mind. They simply can't do a good job without it.

### 78 Million For Advertising

The money these manufacturers spend for advertising runs into astronomical figures. In the list of top U. S. spenders for all products for 1952, three soap manufacturers—Proctor & Gamble, Colgate-Palmolive-Peet and Lever—were among the first five and together spent 78 million dollars in that single year. And every dollar spent promoted modern hot water service.

Gillette spent 10 million dollars in 1952. Have you ever tried to shave in cold water?

The leading nationally distributed women's magazines are "McCalls," "Household," "Ladies' Home Journal," "Good Housekeeping" and "Woman's Home Companion." In the June, 1953, issue of these five magazines, alone, the advertisements of manufacturers of equipment and products directly allied with hot water and dependent on it for customer satisfaction, represented an investment of very close to a million dollars for space alone. Use your own imagination for the corresponding figures for all magazines, then for all newspapers, radio and TV stations. You'll arrive at a staggering figure for the total money spent each year to promote hot water.

Advertising is one thing, publicity another. Magazines and newspapers of all classes are running more hot water articles than ever before—and they do this because the subject is one of genuine public interest.

Trade associations are plugging for hot water in many ways. The soap

people have their Cleanliness Bureau which does an outstanding publicity job. Likewise, the Plumbing and Heating Industries Bureau. Textile fiber manufacturers have many associations—the National Cotton Council is typical—which are featuring more and more the hot water washability of their fabrics. The Water Conditioning Foundation represents the manufacturers of water softening equipment and leaves nothing undone to exploit the advantages of hot, soft water in laundering and other home uses. The National Sanitation Foundation advances the cause of hot water in public health education.

The American Gas Association has done and is doing a most competent advertising and promotion job for automatic gas hot water service. Advertising expenditure in general magazines for 1952 for all gas appliances by AGA was \$765,000—for gas water heaters only, it was \$95,000. Estimated figures for 1953 are respectively \$761,500 and \$137,000. Note the increase for gas water heaters. Local gas company advertising on gas water heaters cannot be estimated but is much greater than the general magazine total. Local gas companies are doing more these days to promote gas water heating. Salesmen, home service workers, displays and other methods are consistently used to sell the public. Dealer activity is greater than ever.

### GAMA Promotion Helps You

The manufacturers of gas water heaters, individually and through their own association, the Gas Appliance Manufacturers Association, have stepped up their sales, sales promotion publicity and advertising programs. To advertise automatic gas water heaters for both piped and L. P. gas, they spent \$184,000 in general magazines in 1952, and are expected to spend much more in 1953. This does not include the unmeasured costs of TV, radio, newspaper, direct mail, trade magazines and other advertising. And there can be, of course, no close estimate of the value of the sales and sales promotion work of manufacturers' salesmen and dealers everywhere.

Narrowing the focus to L. P. gas only, you'll find big help in the national magazine advertising of the National Committee for LP-Gas Pro-

motion. This three-year-old program has been most effective, and realizing the load building importance of the automatic water heater, the Committee will devote June and July advertising to it. Fifty leading magazines will carry the story. Total readership will be 103,500,000 people, among them many of your customers.

Added sales pressure will come from an expanded publicity campaign, from consumer booklets and other literature, sales training material and other sales tools.

These millions of people and millions of dollars are your sales allies, nearly all without cost to you. Their sales influence works in many direct and indirect ways. The complete cooperative picture is almost beyond comprehension.

The value to you? Gratifyingly great if you work with it, disappointingly small if you don't.

### Write Your Own Ticket

You're the key man and your plan for success is quite simple.

1. Make a list of all your customers who do not own an automatic gas water heater. While the national target—4,850,000 L. P. gas homes without an L. P. gas water heater—is a most inspiring one, much more important is the number of your own customers without L. P. gas hot water service. Your books will reveal their names. This is your own clearly defined target.

2. On this list, underscore those with automatic clothes washers. This takes a bit of checking by your delivery crew or phone, but it's a worthwhile target because only the modern automatic gas water heater can deliver hot water at right temperature as fast as the washer demands it.

3. Check all present owners to be sure of their continued satisfaction. Print or mimeograph the list; it's your No. 1 sales tool. Ask owners for testimonial letters and reproduce them in quantity for prospect distribution.

4. Advertise by every means you have, and to the limit of what you can afford. Reach every water heater prospect regularly and often with direct mail using pieces furnished by water heater manufacturers and direct mail service companies. Use processed letters on your own letterheads and enclose reproductions of

your own user list and testimonial letters. If you use newspaper and radio advertising, devote a fair share of it to gas water heating. Consider 24-sheet posters on gas water heaters if they're available to you.

5. Organize your own personal sales story. Know the service and competitive fundamentals as explained in the special section, "Your Sales Story." Adapt it to your own business and your own customers. Tailor each story to fit the individual prospect. Know all the sales points, general and special. Know the common objections and how to overcome them. Try out your sales story. Ex-

periment with it—add to it. Perfect it.

A good sales story is money in the bank—in *your* bank and in *your* name!

6. *SEE* every prospect yourself or have them seen by a competent salesman—not once or twice but as many times as needed to get the order. Only non-existent super-salesmen get the order every time on the first call.

Use all the sales ammunition you have—literature, user list, testimonial letters, and, above all, your own common sense story why *this* prospect should have *this* water heater.

This is an automatic era. Sooner or later every customer of yours will have an automatic water heater. Will it be electric or L. P. gas? The answer depends on you.

*See your prospects!* That's the final and vitally necessary step in the trail that leads to the sale, to gas load increase and to another entry in your bank account.

And remember, like Dr. Conwell's "acres of diamonds," they're right in your own backyard!

The time for the **BIG DRIVE** is **NOW!** Let's get on the move!

(This article will be concluded next month.—Ed.)

## Water Heater Shipments Highest In 25 Months

Shipments of automatic gas water heaters climbed to a 25-month high during April, according to the Gas Appliance Manufacturers Association.

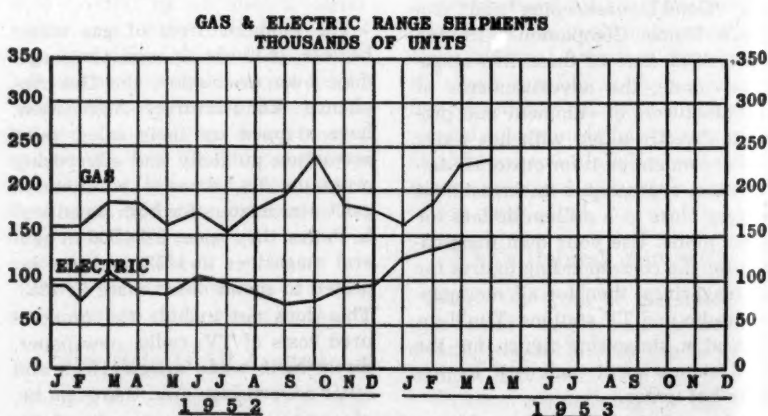
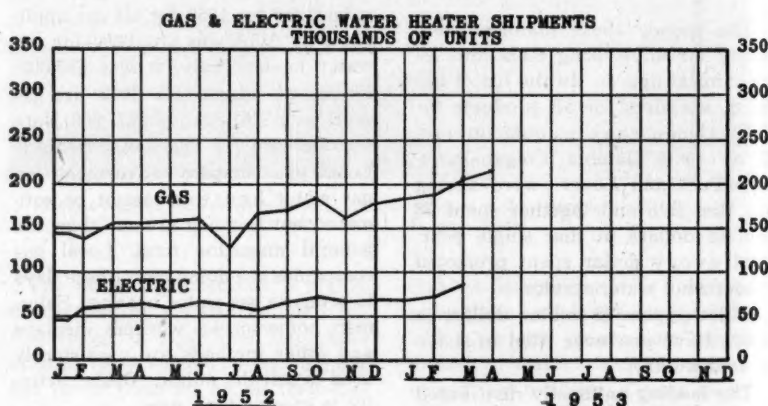
Edward R. Martin, GAMA's director of marketing and statistics, reported that last month's shipments totaled 218,600 units, highest since March, 1951, and a 42.6% increase over the same month of 1952. According to previous statistics, approximately 25% of these units went into the LPG industry.

Gas water heater shipments for the first four months totaled 797,500 units, according to Mr. Martin, a 32.7% gain over the corresponding period of last year.

Mr. Martin's estimates are based on a telegraphic survey of GAMA members and expanded to represent the output of the entire automatic gas water heater industry.

The organization reports that shipments of domestic gas ranges in February were estimated at 178,300 units, a 7.3% gain over the same month last year. Output of automatic gas water heaters in February reached approximately 190,900 units, up 30.9% from the like 1952 month, and February shipments of gas-fired furnaces totaled 34,500 units, an increase of 43.8%.

A far greater percentage of farm homes is enjoying the benefits of the entire "family" of modern automatic appliances. At least 500,000 gas ranges were produced last year alone for use with L. P. gas. More than 260,000 automatic gas water heaters and about 20% of all gas-fired heating systems manufactured in the U. S. were shipped to rural markets.



April gas range shipments totaled 232,400 units for a 27.5% gain over the 182,300 reported for April of 1952, according to Edward R. Martin, director of marketing and statistics, Gas Appliance Manufacturers Assn.

The April shipments raised the total for the first four months of the year to 817,100 units, 16.8% higher than the 699,800 figure reported for the comparable period of last year.





Need any clean, warm heat today, lady?

# SELL HEAT FIRST

and you're in!

**H**HEAT, or lack of it, is important to everyone. Centuries-old smoke marks in the home of the cave man tell us that heat always has been essential to the maintenance of life. Today, we are even more dependent on heat. Let the thermometer drop below 70° and most of us do one of two things: we move the wall thermostat to a higher setting or go hunting for our red flannels.

There is, in fact, no part of the United States in which man can live comfortably if he relies entirely on nature's air conditioning apparatus.

We are as dependent on man-made heating devices as we are on the corner grocery store for the food we eat. In fact, we might even live in a house without a range to cook on or a bed in which to sleep. We can sleep on the floor and take our meals at the nearest restaurant. We can do without most of the luxuries of life, but in cold weather we can't live in an unheated house.

Heating holds special significance for the L. P. gas dealer. For him, the

sale of a piece of L. P. gas home heating equipment can be the first in a series of sales with an opportunity for profit at every step. The opportunity is his alone. Certainly it is not shared with the dealer who sells electrical appliances, the fuel for which must come from a utility. Nor is it shared with the fuel oil dealer who has heating equipment to offer but little in the way of related appliances for the home.

But for the LPG dealer there is,



The word "automatic" has 'magic' sales appeal.

first of all, the sale of the heating equipment—a space heater, floor furnace, wall heater, or a complete central heating job. And, in most instances, heating equipment is a "big ticket" sale. Very often the installed cost exceeds \$500.

Second, there is profit in the sale of the fuel—L. P. gas—not just in quantities sufficient for the preparation of meals or heating water for household use, but enough to heat every room in the house for an entire season.

Third, the customer who heats his house with L. P. gas is a prime prospect for complete usage of L. P. gas home appliances.

Many dealers selling L. P. gas and related equipment believe that for



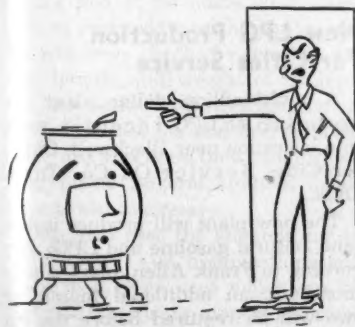
By L. M. Marks

Sales Manager, Home Heating and Air Conditioning Division  
The Coleman Company, Inc.  
Wichita, Kansas

home selling, all sales should start with the range. Get a range in the house, they say, and you're on the way to building a load and selling other household equipment. This undoubtedly applies in many cases, but to hold steadfastly to that belief is to overlook one of the biggest opportunities that ever banged on the door.

This year, another million homes will be built. Countless thousands will be built in rural and suburban areas beyond the reach of gas mains. Many will use L. P. gas for heating and cooking. But many more will use oil, coal and electricity or a combination of these fuels.

When a new house is built in an area where LPG is available, the initial goal of the dealer should be the sale of heating equipment. If he succeeds, and a storage tank is installed, it will take a heap of selling on the part of his competitors to put an electric range or an electric water heater in that house. Isn't it far more likely that your heating customer will buy *your* L. P. gas range and water heater?



Go! And take your dirty coal with you!

But, lose the sale of heating equipment through lack of merchandising "know how" or plain inertia to the man who sells oil- or coal-fired heating equipment, and you'll be fighting an uphill battle when you step in and try to sell your L. P. gas range or water heater.

The chances are that most users of oil and solid fuels for house heating will go to an electric range and water heater. And with that decision your opportunity to sell LPG equipment for home use is practically eliminated for years to come.

In a midwestern city several hundred new homes were to have natural gas for heating and cooking. Unfortunately, a gas "freeze" order was imposed and the builder decided to heat his houses with oil. From there he went to a complete electric kitchen with range, water heater and dryer.

It is altogether clear that no one in the gas appliance business is going to sell anything to the owners of those 500 homes for a long time to come.

Liquefied petroleum could not have been used in this particular project, but the illustration points out that the choice of heating fuel has a definite bearing on what equipment goes into the kitchen or utility room.

The same is true in another and even larger market, home modernizing.

It is doubtful if any one person,

government bureau or business reporting service can accurately estimate the size of the home modernizing market. It has no geographical limitations and thanks to a high level of income and such mechanisms as the Open End mortgage and the FHA Title I loan, there is plenty of money available for home modernization.

For the L. P. gas dealer the important fact to keep in mind is that of the nation's 42½ million existing homes, more than 20 million, or 48%, are stove heated! Take a look at the U. S. Census figures for farm dwellings and you'll find that the percentage of stove-heated homes is much higher.

It is also well to keep in mind that most of the houses in this country are over 20 years old. Even the houses in this 20-years-old-and-over group that have central heating figure in your market potential because their present heating system (probably an old-style gravity type warm air furnace) will be obsolete and inefficient.

So, here again, the dealer has an opportunity which almost amounts to an obligation. The owners of these stove- and gravity-heated old houses need and want automatic heating. Who but the L. P. gas industry is equipped to provide them with automatic heating, a modern range and a high-recovery water heater all from one source of supply?

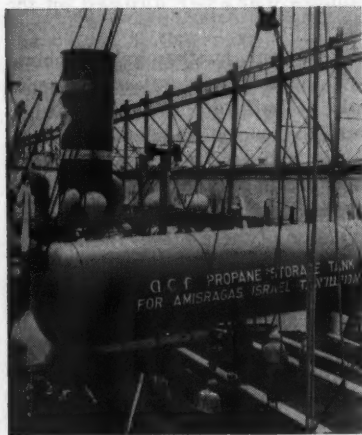
There seems to be reluctance on

the part of some dealers to sell L. P. gas heating equipment because of the objection, and very often an imaginary one, that the prospect will think operating costs for L. P. gas are too high. In some cases this might be true, but certainly it will prove to be the exception rather than the rule. Even in the few areas where LPG is relatively high, the dealers should not overlook the magic in the word "automatic." People like automatic equipment and will pay for it. What if fuel costs are slightly higher? The benefit of greater comfort and the fact that LPG home heating equipment does not require constant attention can complete the sale for you.

Who among your customers would want to go back to an automobile without a self starter? Yet, it costs money to add a starter, automatic ignition and all the other features that make a car more comfortable, serviceable and automatic. But people want automatic starters and all the other automatic features even though they realize these features increase the first cost and the operating cost of their automobile.

The comparison can be applied to the automatic features of gas heating.

Many dealers already have proved that the first sale and the all-important sale is automatic home heating equipment. These dealers have more than a foot in the door. They're all the way in.



One of four 18,000-gal. steel storage tanks being loaded for shipment to American Israeli Gas Corp. in Tel-Aviv. The all-welded tanks were made by American Car and Foundry Co., New York, and will be used in Israel.

## Propane Control Panel Shown At Oil Exposition

A full-size graphic control panel, completely wired and piped and built at a cost in excess of \$25,000 by the Industrial Division of Minneapolis-Honeywell Regulator Co., was one of the display features at the \$100 million International Petroleum Exposition in Tulsa, May 14-23.

The control panel, built for use on a new propane recovery unit at Sinclair Refining Co.'s Marcus Hook facilities, is believed to be the first such production model to be used as a display unit. After the show the panel was re-inspected, re-tested and then shipped to Marcus Hook for installation.

Weighing approximately 4000 lbs., the control panel is 8 ft. high, 14 ft. long and 26 in. deep. Company engineers said that it is the most fully

explosion-proof panel yet built. All electrical connections, switches and contacts, even to the fluorescent lighting, have been protected against this hazard. Built into the control panel itself are a variety of industrial instruments.

## New LPG Production For Cities Service

A multi-million dollar plant for production of LPG recently went into operation near Blackwell, Okla., for Cities Service Oil Co., Tulsa, Okla.

The new plant will produce isobutane, natural gasoline and LPG. According to Frank Allen, plant superintendent, an additional month or two will be required before the capacity production of 200,000 gals. per day is reached.

# Highway Kitchens Offer New Load

By Jennie A. Russ

AN interesting use for L. P. gas is its application to highway eating establishments where it fuels ranges, water heaters and other appliances. An illustration is to be found in Michigan City, Ind., where it is installed to operate six griddles, a refrigerator and two coffee urns in "Mobile Kitchens." As the name implies, Mobile Kitchens are trucks fitted out as kitchens, which may be hauled to any desired location.

The idea of making a business of "Mobile Kitchens" originated with Robert Ulrich and Al J. Krueger of Michigan City. These two men were on committees to find means of making money for a Kiwanis celebration last year. One of the sources of income was the sale of sausages and pancakes from a rigged-up trailer. It was so successful that the two men formed a partnership, patented the name "Mobile Kitchens," got busy on the details and soon were on their way to Pensacola, Fla., for the inauguration of the governor of that state. There they operated under the auspices of the local Kiwanis Club and did an amazing business.

A unit of Mobile Kitchens consists of an advance car and a trailer pulled by a 1½-ton truck. Franchises have been given to men in 11 states. More will be added this year.

## Must Follow State Laws

There is more to operating one of these kitchens than just taking it to a town. Before the men even started to equip the first unit, many legal details had to be made clear. The laws of every state in the Union and Canada were checked regarding the size, length, and weight of trailers; also the health laws regarding lunch rooms, and the tax and license laws. After this was done they could make their plans. Several kinds of insurance is also necessary.

One man uses the advance car to contact various organizations and clubs in a given area which are interested in raising money for some altruistic purpose. The organization sells tickets, and at a specified date,



Patrons enter at one door and leave from another.

the Kitchen comes to town, parks, and gets ready for business. The sponsoring society cooks and serves the pancakes and sausages, and receives a liberal share of the profits.

The Kitchen, equipped with six griddles, a Servel refrigerator, and two coffee urns, is operated with "Freygas" from the Modern Equipment Co. of Michigan City. The gas tanks are carried inside the trailer.

The Kitchen is arranged so that the people enter at one end and leave by the other. Down the center there is a long counter from which the plates of pancakes and sausages are picked up. The coffee urns are near the exit. Only pancakes, sausages and coffee are served. "All you can eat for \$1."

When possible, the food, supplies, and gas are bought from local wholesalers, so that most of the money received is actually left in the town.

The Kitchen also carries 10 stout folding tables and 20 benches for outdoor use and, if necessary, in case of stormy weather, the Kitchen could be parked near a door of a building and a canopy put up for protection. Or the griddles and urns could be disconnected and taken inside.

Because cylinders of L. P. gas can be purchased throughout the country, the flexibility of this unit is contributing to its success. It can set up in any town, large or small, or even at county fairs with no fuel problems to prevent its successful operation.

## Philippine LPG Firm Sells Gas at 55 Cents Per Pound

More than half of the Philippine L. P. gas market is handled by the

Philippine Acetylene Co., Manila, distributor for Standard-Vacuum Oil Co. for the island of Luzon, according to Charles R. Butler, company manager.

The Philippine Acetylene Co., whose main competition is the local manufactured gas company, concentrates on Manila suburbs for business, with the utility company using pre-war underground piping, being limited to districts not damaged in the war.

LPG is delivered to Philippine Acetylene in cylinders, which are weighed and painted in the company's own plant and then delivered to customers. It is necessary to charge customers 55 cents per pound for gas in order to make a profit. Empties are returned to the Standard-Vacuum Oil Co., where they are sent by steamer to the Standard-Vacuum refinery in Indonesia for refilling.

Mr. Butler reports that monthly sales range from 115,000 to 120,000 lbs. In addition to LPG, the company also deals in oxygen and acetylene equipment and supplies.

## Kansas Dealer Holds Two-Day "Open House"

The Union Gas System, Iola, Kan., L. P. gas dealers, held open house May 22 and 23 at its new store and office at 602 N. State St., with Glenn McGuire, manager, serving as host.

Free coffee and cookies were served to the patrons from 8:30 a.m. to 9:30 p.m. during the "open house" period.

Although the new building has been in use for over a year, the structure was not entirely completely until recently. It is one of the most modern combined office and store buildings in the area.





Let's make SAFETY Everybody's Business

No. 6

## Suggested Program for Safety Meeting

- 1— It's sign-up time. Keep record of absentees.
- 2— Report on disposition of previously discussed safety projects, giving details of completion, progress, etc.
- 3— New business. What other safety problems need attention?
- 4— What happened in the way of accidents since the last meeting? How could they have been avoided?
- 5— Lesson time. Subject, "Let's Make Every Range and Refrigerator Installation Safe." Study material was published in the June issue.
- 6— Announce date, subject, study assignments for the next safety meeting.

### DISCUSSION GUIDE FOR "Let's Make Every Range and Refrigerator Installation Safe"

*This is a "how to" subject of utmost importance. The range is the appliance most commonly used by customers. It is truly the backbone of the L. P. gas business. Everybody in the organization should know and be able to recognize instantly the right and wrong methods of installation, adjustment, maintenance, and operation.*

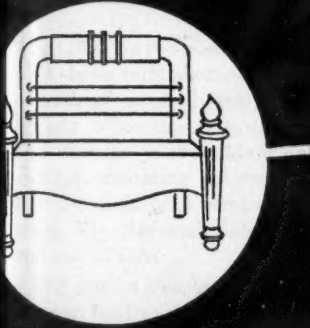
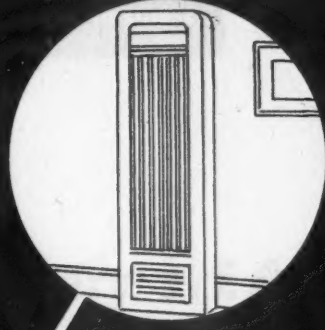
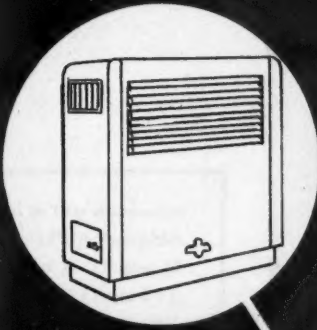
*Why not make this primarily a demonstration meeting, covering the whole procedure? For this demonstration you will need a piping stub connected with a supply of gas. It should be equipped with a shut-off valve, and capped, just as if the piping had been installed the day before, and the range was to be installed this morning. Now the procedure:*

1. Inspect the range to make sure that it is set up for L. P. gas. Show what to inspect, and the difference between the adjustable orifice found on some range burners, the fixed orifices for natural or manufactured gas, and the fixed orifices for LPG:
2. Determine the location for the range, giving reasons for the spot selected.

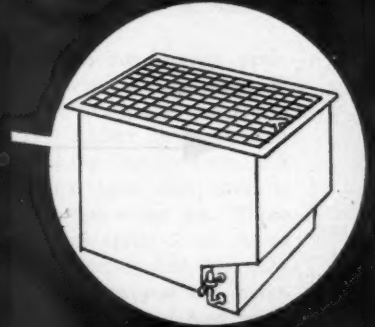
3. Connect the range to the outlet, explaining the different requirements when connecting with solid piping or tubing.
4. Test for leaks, explaining the several steps, and giving reasons. Why not have one manifold valve prepared so it will leak, and demonstrate how to clean and seal it? A little shaving of soap in the ground joint will make a perfect leaker, and does no harm.
5. Light and adjust all burners, showing effect of too much, too little, and the correct amounts of primary air.
6. Instruct an imaginary customer how to use the range, how to turn off the gas in case anything goes wrong, and why and how to get in touch with the service department when help is needed.

Review the problems printed in the June issue, page 74, and see if all the questions have been covered in the demonstration. Provide the answers for any that have not been settled. (See answers, page 72, this issue.)

Let's make SAFETY Everybody's Business







Let's make every  
**HEATING  
INSTALLATION**  
Safe



# SAFETY MEETING

Date \_\_\_\_\_  
Time \_\_\_\_\_  
Place \_\_\_\_\_





The poster on the other side of this page  
is for your use in announcing the Safety  
Meeting covering

**"Let's Make Every  
Heating Installation Safe"**

(See opposite page)

Fill in date and hour of your meeting, and  
pin on bulletin board.

*\* Another poster comes next month.*



Let's make SAFETY Everybody's Business



The material in this discussion is based upon LPGA Pamphlet 1, Sections 8 to 15 (Pages 11 to 17); Section 23 (Page 21); Section 5 (from "p" to "v", Page 7).

## Let's make every HEATING INSTALLATION safe

By Carl Abell

**M**ORE safety information has been published on the subject of making house heating safe than on any other domestic use of fuel. This material is available from many sources, including government publications, insurance companies, magazines, the National Safety Council, and the LPGA.

The reason that house heating has come in for this extra attention is because the heating equipment as a rule consumes a larger amount of fuel than any of the other appliances in the house, and because the heaters are used for such long periods.

Because of this extra "exposure," and because of the intimate relationship that often exists between the heating appliances and the structure of the buildings in which they are located, state and local building codes go into great detail in regard to their installation. Every employee making installations of heating appliances should be provided with copies of the applicable codes, and should study them carefully in relation to LPGA Pamphlet No. 1, so he may be able to avoid any mistakes while doing the work.

In comparing LPGA Pamphlet No. 1 with the published experience with other forms of heating fuel, the most impressive fact disclosed is that nearly all safety problems involved in L. P. gas heating installations are

heating problems. Few of them are specifically L. P. gas problems.

Incomplete combustion with any type of burner operating on any type of fuel will produce carbon monoxide, and under certain conditions partial combustion will also produce irritating fumes of the aldehyde type. Regardless of fuel, the cure for this problem is to provide adequate intake air and balance up the burner operation so combustion is complete.

The air in any enclosed space becomes vitiated and unhealthy unless adequate ventilation is provided. The temptation to close all the openings in a room to retain heat becomes very great in cold weather, and if the air supply for the heater comes from within the room, the atmosphere quickly becomes worse. If the heater is not vented to the outside, a serious deficiency of oxygen and a surplus of carbon dioxide follows. Occupied rooms should have adequate ventilation to maintain a normal supply of oxygen, regardless of the source of heat—and this includes electric heat.

Fires caused by heating apparatus occur because some combustible structure or material becomes overheated, and this is completely independent of the type of fuel that supplies the heat. Electricity is not exempt. As a matter of cold fact, the published reports of the National Fire Protection Association show that each year the building fires originating from electrical causes outnumber

those caused by gas by about eight to one. And that includes all fires caused by gas—utility as well as LPG.

The only remaining safety problems arising from the use of L. P. gas for house heating come from escaping fuel, either on account of leakage from the line, or because a burner valve is open when there is no fire to consume the gas. These same conditions apply to all forms of gas used as heating fuel. The only difference is that natural and manufactured gas rise to the ceiling while L. P. gas settles to the floor.

A careful study of LPGA Pamphlet 1 shows that all of its safety provisions are planned to avoid the above hazards. They are just good standard safety procedures, based on the same principles that apply to heating with any fuel, and modified where necessary to apply specifically to LPG.

The American Gas Association Laboratories are just as thorough in their testing of heating appliances as they are in connection with ranges or any other type of gas consuming equipment. Heaters bearing the AGA approval are safe if they are installed, maintained, and operated according to the terms of the listing.

It should be borne in mind that AGA listing controls only the design of the appliances. Compliance with approved installation practices depends on the person or organization making the installation and on the enforcement activities of the state or

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*Material for Employees to Study for Seventh Safety Meeting*

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local authorities having jurisdiction.

Adjustment and maintenance practices are only as good as the knowledge, skill, and integrity of the mechanic who does the job. Up to this point we have factors that can be controlled. The final link in the safety chain is the customer who uses the appliance. It has often been said that the only unsafe thing about a good appliance that has been properly installed is the customer. That makes it doubly important to instruct the customer carefully in the care and operation of his appliance.

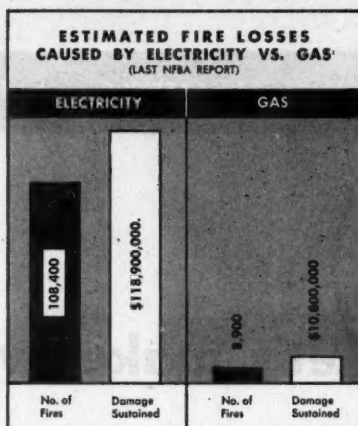
The sections of LPGA Pamphlet 1 which apply to heating equipment are reproduced with this article. You will note that individual treatment is given to each separate type of heating apparatus, and that in each case provisions are made for safe installation in relation to combustible structures or materials, and that appropriate recommendations are included for air supply to the burners and proper disposition of the products of combustion.

In the case of heaters requiring venting, specific details are given covering the procedures with each type of appliance. Because of its related interest, we are also reproducing the section of Pamphlet 1 which lists the conditions under which venting of appliances is required. The principles of venting, and recommendations covering the design and installation of flues and vents are not included in the sections reproduced with this article. These appear later in LPGA Pamphlet 1, and will be the subject matter of next month's assignment in this series.

### Accessibility Important

The importance of "accessibility" is also stressed. This is important particularly in relation to permanently installed heating appliances. It is sometimes necessary to clean and adjust burners, service the controls, oil blowers, and replace filters, and unless there is ample space in which to work there is always the temptation to take a chance by skipping some item which should receive attention.

Section 8 of LPGA Pamphlet 1 deals with room or space heaters, a general grouping for the low cost portable units, and other types, such as the gas-fired steam radiator, which are designed to heat single rooms



Eight times as many fires occur from electrical origin as from the use of gas, which includes utility gas as well as LPG.

and are not incorporated in the building.

Special attention is given to "unlisted room or space heaters," and you will note, as was the case in the discussion of ranges in the previous assignment, that extra clearance is recommended when installing these units. The reason is that we have no official test data on the surface temperatures of the heaters which have not gone through the tests, so the proper procedure is to allow extra clearance just to be sure that the appliances will not overheat combustible surfaces. This extra clearance may not be needed in the majority of cases, but it is better to have it than to find out too late that it should have been provided.

There is nothing in Section 8 about venting of these appliances. Many heaters of these types are not equipped with vent connections, although some of the circulating and combination circulating and radiant heaters have flue boxes, and it is customary to vent the gas-steam type radiators.

Whatever one may think about the relative merits of vented and unvented heaters, the fact remains that

## LPGA Recommended Good Practice Rules for Liquefied Petroleum Gas Piping and Appliance Installations in Buildings.

### 8. Room or Space Heaters

(a) A room or space heater shall be placed so as not to cause a hazard to walls, floors, curtains, furniture, doors when open, etc., and to the free movements of persons within the room. Appliances designed and marked "For use in incombustible fire-resistive fireplace only", shall not be installed elsewhere. Listed room or space heaters shall be installed with clearances not less than specified in Table 3, except that appliances listed for installation at lesser clearances may be installed in accordance with their listings. In no case shall the clearances be such as to interfere with the requirements of combustion air and accessibility. See 5 (a) and 5(c).

(b) Unlisted room or space heaters shall be installed with clearances from combustible construction not less than the following:

1. **Circulating Type.** Room heaters having an outer jacket surrounding the combustion chamber, arranged with openings at top and bottom so that air circulates between the inner and outer jacket and without openings in the outer jacket to permit direct radiation shall have clearances at sides and rear of not less than 12 inches.

2. **Radiating Type.** Room heaters other than those described above as of circulating type shall have clearances at sides and rear of not less than 18 inches; except that heaters which make use of metal, asbestos or ceramic material to direct radiation to the front of the appliance shall have a clearance of 36 inches in front, and if constructed with a double back of metal or ceramic may be installed with a clearance of 18 inches at sides and 12 inches at rear.

3. Combustible floors under unlisted room or space heaters shall be protected in an approved manner.\*

(Continued next page, col. 3)

\*For details of protection see Building Code Standards of the National Board of Fire Underwriters for the Installation of Heat Producing Appliances, obtainable from the National Board of Fire Underwriters, 85 John Street, New York, N. Y.

TABLE 3. MINIMUM CLEARANCES FOR LISTED GAS-FIRED ROOM HEATERS.

Type	Distance from Combustible Construction Inches	
	Jacket, Sides and Rear	Projecting Flue Box or Draft Hood
Warm Air Circulators .....	6	2
Radiant Heaters .....	6	2
Wall Heaters .....	Flush	--
Gas Steam and Hot Water Radiators .....	6	2

# Gas Appliances are Safe if they are ...

## 1 Properly Designed and Tested

AGA-approved appliances have met rigid tests in design and construction for safe use by the customer.

## 2 Properly Installed

Dealers and heating contractors are responsible for compliance with approved installation practices.

## 3 Properly Inspected

State and local authorities are responsible for the installation meeting their safety standards.

## 4 Properly Adjusted and Maintained

Adjustment and maintenance depend upon the skill and knowledge of the individual and organization making the installation.

## 5 Properly Operated

Customers must be carefully instructed in the care and operation of their heating equipment.

the greatest number of L. P. gas room heaters in use are of the unvented type. Many of these makes and models are listed by the AGA, in spite of the fact that published statements by technical members of the AGA staff indicate that they have a definite preference for vented heaters.

There is a tremendous demand for heaters which can be installed at low cost. Venting is frequently more expensive (particularly in an old house where no such installation was planned in the original construction) than the entire cost of an unvented heater. Someone is going to supply the demand for the low cost heaters. The problem seems to be to accept the situation as it exists, and try to make the heaters as safe as possible.

In connection with this matter, C. George Segeler, engineer of utilization, American Gas Association, says (American Gas Association Monthly, February, 1953), "Sometimes we ask why there are American Standards and AGA approval for unvented space heaters at all. You will agree that it is undoubtedly better that such equipment meets minimum standards for design and for input rating standards rather than to have such appliances outside of the scope of any testing program."

Mr. Segeler emphasizes the importance of standards of input ratings. The correct input rating depends on having the heater equipped with the correct size orifice for the fuel to be used. L. P. gas has a higher Btu content than natural or manufactured gas, so if one of these heaters that complies with the terms of the approval for natural or manufactured gas is used with L. P. gas, the input rating will be exceeded. This may create a fire hazard due to overheating of the appliance and there is a grave chance that the heater will produce excessive amounts of carbon monoxide unless the orifice is reduced to the correct size for the fuel.

Quoting further from Mr. Segeler's article, in listing the possible causes of carbon monoxide production, he says, "In the first and simplest case, the air shutter of the burner is not correctly adjusted or is clogged, although the gas input is correct; or

## Good Practice Rules (LPGA Pamphlet No. 1)

### 9. Wall Type Room Heaters

(a) Wall type room or space heaters shall not be installed in walls of combustible construction unless approved for such installations.

(b) Room or space heaters shall be vented as specified by Section 23. It is recommended that room or space heaters installed in all sleeping quarters or rooms generally kept closed be vented to an effective flue or vent and equipped with an automatic pilot.

### 10. Central Heating Boilers and Furnaces

(a) Where a complete shut-off type automatic pilot system is not utilized a manual main shut-off valve shall be provided ahead of all controls except the manual pilot gas valve.

(b) Where a complete shut-off type automatic pilot system is utilized, a manual main shut-off valve shall be provided ahead of all controls. A suitable manual valve shall be provided for shutting off the main burner gas independently of the pilot gas.

(c) A union connection shall be provided downstream from the main manual shut-off valve to permit removal of the controls.

(d) Listed central heating boilers and furnaces shall be installed with clearances not less than specified in Table 4, except that appliances listed for installation at lesser clearances may be installed in accordance with their listings. In no case shall the clearance be such as to interfere with the requirements for combustion air and accessibility. See 5 (a) and Sec. 10 (f). Unlisted central heating boilers and furnaces shall be installed with clearances from combustible construction of not less than 18 inches above the appliance and at sides, front and rear, and 9 inches from projecting flue box or draft hood, except that the clearance above and at the sides and rear may be 6 inches for appliances of the following types:

1. Mechanical warm air furnaces which are automatically fired and equipped with a fan to circulate the air and with approved automatic temperature limit controls that cannot be set higher than 250°F.
2. Hot water and steam boilers operating at not over 15 lbs. gauge pressure, of water-wall type or having a jacket or

(Continued next page, col. 3)

TABLE 4. MINIMUM CLEARANCES FOR LISTED CENTRAL HEATING BOILERS AND FURNACES.

Type of Appliance	Distance from Combustible Construction Inches			
	Above	Jacket Sides and Rear	Front	Projecting Box or Draft Hood
Boilers .....	6	6	18	6
Furnaces .....	18*	6	18	6



where the gas input is too high and no air shutter adjustment will take care of it."

This emphasizes at once the necessity for the correct orifice size and the correct adjustment of the air shutter. The AGA label on a listed heater will tell whether or not it is approved for use with L. P. gas. Those listed for use with other fuel gases should be carefully inspected for orifice size before connecting to the L. P. gas line, and any necessary conversion work performed in the company shop if possible.

Conversion in the shop instead of in the customer's home is preferable with any type of equipment. It makes a better impression on the customer to see his appliance installed and connected, and fired up with only a moment's simple testing and adjustment. This is possible only if the conversion work is done away from the customer's premises. We suggest the following procedure:

1. Check the manufacturer's data to determine if the heater is suitable for use with L. P. gas, and to determine the recommended changeover procedure.

2. If the heater now has an adjustable orifice, remove it and install a fixed orifice of the proper size for maximum safe Btu input. This is important, as in many cases the heaters may be undersized for the room, and in the attempt to get more heat out of the unit the customer may change the setting of the adjustment screw, with possible formation of undesirable products of combustion.

3. If the heater has a plain pilot light, remove it and replace it with a fully automatic safety pilot.

4. After the changeover has been made, try the heater out in the shop to be sure of proper performance.

Some confusion exists in regard to the venting of room heaters, which has been brought about by the increasing number of state and municipal codes which require venting of room heaters in living quarters occupied by transients, and in public institutions. The authorities take the justifiable stand that travelers not familiar with gas appliances may leave them burning all night with inadequate ventilation, and that this may result in asphyxiation, unless the gas heater is vented to the outside of the building. Certainly a large number of apartment dwellers, accustomed to steam or hot water heat from central plants, might be likely to make this mistake.

Since motels, rooming houses, tourist accommodations of various kinds



Don't make it easy for a bird to set up housekeeping in an unprotected vent.

and public institutions make up an important segment of the potential market, many manufacturers wish to get in on the sales volume offered by this type of business. In order to be acceptable for this class of trade, it is necessary for the heaters to be equipped with vent connections, even though the heaters have been designed, tested, and approved for unvented operation. With the multitude of unlisted room heaters on the market, this situation can really become confusing.

### Venting Is Safest

Probably the safest solution is to vent all heaters which come equipped with a vent connection. There is a chance that the features necessary for successful operation without venting have not been incorporated in the heater which has the vent connection.

Where a portable room heater is installed, an approved shut-off valve should be installed in the piping stub leading into the room. This may be closed and capped if it is desired to remove the heater during the warm season.

The use of slip-end hoses for connecting portable room heaters is the subject of endless debate. Their use is widespread, both on natural gas and L. P. gas appliances. NFPA Pamphlet 58 does not mention slip-end connections specifically, although in B.7 (e) 2 we find, "Only approved hose of proper design and good quality shall be used, and it shall be securely attached at each end." "Securely attached" is not defined.

LPGA Pamphlet No. 1 in section 5 (1) (reproduced in the May safety article) specifically mentions flexible hoses with rubber slip-end connections, and defines in detail the conditions under which they may be used.

## Good Practice Rules (LPGA Pamphlet No. 1)

lining of masonry or other satisfactory insulating material.

- (e) A central heating boiler or furnace shall be erected in accordance with the manufacturer's instructions and shall be installed on a firm, level, fireproof foundation unless listed for installation on a combustible floor, or the floor is protected in an approved manner. \*(See footnote bottom page 8).

- (f) The installation of central heating boilers and furnaces shall be such as to make them accessible for cleaning of heating surfaces, removal of burners, replacement of sections, motors, controls, filters, draft hoods and other working parts, and for adjustment and lubrication of parts requiring such attention.

- (g) The method of connecting the flow and return pipes on steam and hot water boilers shall facilitate a rapid circulation of steam or water. For common piping systems, reference may be made to the American Society of Heating and Ventilating Engineers' — Heating, Ventilating, Air Conditioning Guide<sup>1</sup> and to The Institute of Boiler and Radiator Manufacturers' (IBR) Guides<sup>2</sup>.

- (h) A steam or hot water boiler shall be provided with a direct connection to a water supply through an individual control valve. A drain valve, by means of which the boiler may be flushed or drained, also shall be provided.

- i) Steam and hot water boilers shall be provided with approved automatic devices to shut down the burner in the event of undue pressure or low water in a steam boiler or overheating in a hot water boiler.

- (j) A plenum chamber when not a part of a furnace shall be constructed in accordance with the manufacturer's instructions. The method of connecting supply and return ducts shall facilitate proper circulation of air.

(Continued next page, col. 3)

<sup>1</sup>Copies may be obtained from the American Society of Heating and Ventilating Engineers, 51 Madison Avenue, New York 10, N. Y.

<sup>2</sup>Copies may be obtained from the Institute of Boiler and Radiator Manufacturers, 60 E. 42nd Street, New York 17, New York.

Reference may be made to the Standards of the National Board of Fire Underwriters\*, for the installation of Air Conditioning, Warm Air Heating, Air Cooling and Ventilating Systems, NBFU Pamphlet No. 90, and to the Design and In-

\*A vertical clearance of 6 inches may be used with warm air furnaces equipped with mechanical means to circulate the air and with an approved temperature limit control that cannot be set higher than 250°F.

\*\*National Board of Fire Underwriters, 85 John St., New York 7, N. Y.

Since both Pamphlet 58 and Pamphlet 1 devote more words to gas hose than they do to piping, it must be assumed that the sponsoring bodies look upon the use of gas hose as inevitable but hazardous, so they go to considerable lengths to try to make its use safe. Both pamphlets specifically state that only threaded metal connections shall be used on appliances which require mobility in operation (which includes gas irons, hand torches, etc.).

While we may reasonably expect that service and installation men in the gas industry will be familiar with the provisions in regard to the use of gas hose, we must also consider that few customers will ever see either pamphlet, and that in too many cases their sense of caution is not too highly developed. Housekeepers are continually moving gas hoses around in their vacuum cleaning and sweeping operations, and children play around heaters without adult supervision. It is inevitable that now and then these activities should result in disconnecting a slip-end connection, which might be undetected for some time. Gas hoses

may be procured with threaded end connections at little more expense than the slip-end type, or the portable room heater may be connected up with solid piping or seamless copper tubing without too much expense.

Section 9, on "Wall Type Room Heaters" in paragraph (b) contains recommendations applying to room or space heaters of all types.

It also brings in the subject of pilots, and since they enter into the recommendations with considerable frequency it might be a good idea to clarify the different types of pilots, and the special applications of each.

The simplest form of pilot is merely a tiny flame that is kept burning to provide ignition for a major burner. It is a convenience in starting the fire in applications where the control is by hand, and when the person wishing to start the fire is there personally, and will see whether or not the burner ignites as it should. Presumably if the burner does not light up, he will turn off the burner valve and find out why ignition did not take place.

Sometimes a pilot goes out. The

## Good Practice Rules (LPGA Pamphlet No. 1)

stallation Manuals of the National Warm Air Heating and Air Conditioning Association.\*\*

### 11. Recessed Heaters\*\*\*

(a) Listed recessed heaters may be installed in combustible construction. Unlisted recessed heaters shall not be installed in combustible construction. Because of the necessity for closely correlating the installation of recessed heaters with the building construction, local administrative authorities shall be consulted for the proper installation methods to be followed. Recessed heaters should be installed in accordance with the manufacturer's instructions.

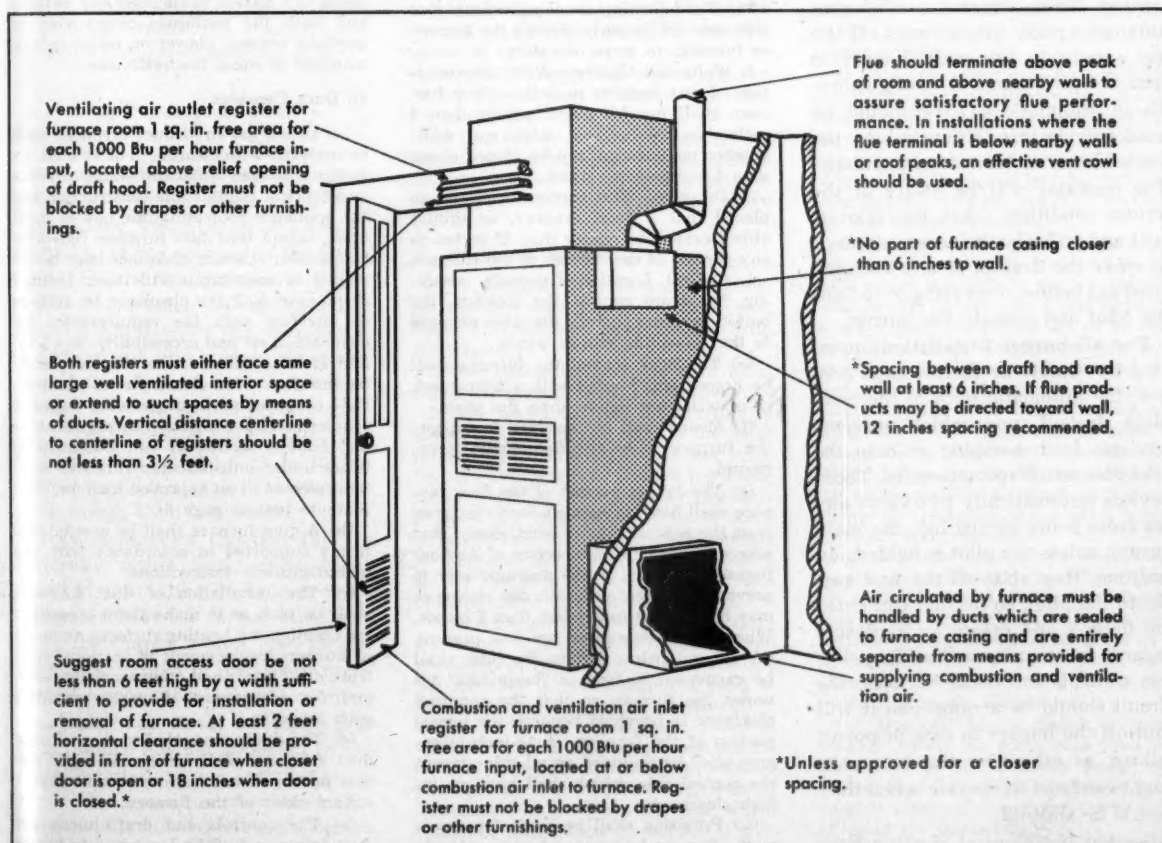
(b) Recessed heaters shall be located so as not to cause a hazard to walls, floors, curtains, furniture, doors, etc. Recessed heaters installed between bathrooms and adjoining rooms shall not circulate air from bathrooms to other parts of the building.

(c) A manual main shut-off valve shall be installed ahead of all controls including the pilot gas valve.

\*\*National Warm Air Heating and Air Conditioning Association, 145 Public Square, Cleveland 14, Ohio.

\*\*\*See Definition in Appendix A.

(Continued next page, col. 2)



amount of gas escaping through the pilot orifice is insignificant, and under ordinary circumstances and with normal air circulation to the main burner, diffusion will be sufficient to eliminate hazards of fire or explosion—the mixture will be below the limit of flammability. The simple pilot has its uses in such open applications as top burners of ranges, small space heaters used in rooms where there is good circulation of air, and in many other appliance applications where the gas is normally turned on and off by hand. There is a number of special designs which permit a simple pilot to serve a number of burners, but the principle remains the same.

### Use Automatic Pilot

The simple pilot is not generally used in ovens, central heating systems, or other large installations where there might be the opportunity, in case the pilot goes out, to accumulate gas in flammable concentration, or where the input of the main burner is sufficiently high to release a hazardous amount of gas at a time when the pilot is not functioning. These situations call for an automatic pilot, which closes off the gas supply to the main burner in case the pilot flame is extinguished. These automatic pilots should be used only in installations where the main burner is turned on manually. The operator will be aware of the wrong condition (that the pilot is out) and will take the necessary steps to clear the firebox of any accumulated gas before attempting to re-light the pilot and operate the burner.

For all burner installations operated by remote or thermostatic control, the automatic pilot of the complete shut-off type, which prevents any gas from escaping in case the pilot goes out, is recommended. These devices automatically prevent any gas from being turned into the main burner unless the pilot is lighted. In addition, they shut off the fuel supply to the pilot, so no fuel can enter the firebox and create an explosion hazard. In selecting or building electric controls for these burners, the circuit should be arranged so it will shut off the burner in case of power failure, as otherwise the burners might continue to operate when they should be shut off.

Section 10, "Central Heating Boil-

(d) The installation of recessed heaters shall be such as to make them accessible for cleaning of heating surfaces, removal of burners, replacement of sections, motors, controls, filters, and other working parts, and for adjustment and lubrication of parts requiring such attention. Panels, grilles and access doors which must be removed for normal servicing operations shall not be attached to the building construction.

(e) Adequate combustion and circulating air shall be provided. See 5 (a).

### 12. Floor Furnaces

(a) Listed floor furnaces may be installed in combustible floors. Unlisted floor furnaces shall not be installed in combustible floors.

(b) A separate manual shut-off valve shall be provided ahead of all controls, and a union connection shall be provided downstream from this valve to permit removal of the controls or the floor furnace.

(c) Fixed ventilation by means of a duct or grille arranged to supply air from a permanently ventilated attic or under-floor space, shall be provided to any confined space which encloses the floor furnace. The duct or grille shall be screened and have a free area at least twice the free area of the vent collar of the floor furnace or one square inch per 100 Btu per hour of gas input, whichever is the greater, and shall be installed in such a manner as to insure proper combustion.

(d) The following are requirements that will serve in properly placing the furnace or furnaces to serve one story:

1. Walls and Corners—With the exception of wall-register models, a floor furnace shall not be placed closer than 6 inches to the nearest wall, and wall-register models shall not be placed closer than 6 inches to a corner.

2. Draperies—The furnace shall be so placed that a door, drapery, or similar object cannot be nearer than 12 inches to any portion of the register of the furnace.

3. Central Location—Generally speaking, the more central the location, the better, favoring slightly the sides exposed to the prevailing winter winds.

(e) The floor around the furnace shall be braced and headed with a framework of material not lighter than the joists.

(f) Means shall be provided to support the furnace when the floor grille is removed.

(g) The lowest portion of the floor furnace shall have at least a 6-inch clearance from the general ground level, except that where the lower 6-inch portion of the floor furnace is sealed by the manufacturer to prevent entrance of water, the clearance may be reduced to not less than 2 inches. When these clearances are not present, the ground below and to the sides shall be excavated to form a "basin-like" pit under the furnace so that the required clearance is provided beneath the lowest portion of the furnace. A 12-inch clearance shall be provided on all sides except the control side, which shall have an 18-inch clearance.

(h) Provision shall be made for access to the furnace by means of an opening in

the foundation wall of at least 18 by 24 inches or through a trap door of at least 24 by 24 inches, located at some convenient point, and a clear and unobstructed passageway to the furnace at least 18 inches high by 24 inches wide.

(i) Whenever the excavation exceeds 12 inches or water seepage is likely, a watertight copper pan, concrete pit, or other suitable material shall be used. A copper pan shall be made of not less than 16 ounce per square foot sheet copper. The pan shall be anchored in place, so as to prevent floating, and the walls shall extend at least 4 inches above the ground level, with 12-inch clearances on all sides except the control side, which shall have 18-inch clearance. When the equipment is sealed by the manufacturer to meet this condition, the pan or pit may be omitted if not required for maintaining a dry condition for service access.

(j) Floor furnaces shall be protected, where necessary, against severe wind conditions.

(k) Listed gas floor furnaces may be installed in an upper floor provided the furnace assembly projects below into a utility room, closet, garage, or similar nonhabitable space. In such installations, the floor furnace shall be enclosed completely (entirely separated from the nonhabitable space) with means for air intake to meet the provisions of 12 (c) with access facilities for servicing on the control side with minimum furnace clearances of 6 inches to all sides and bottom, and with the enclosure constructed of portland cement, plaster on metal lath or material of equal fire resistance.

### 13. Duct Furnaces

(a) Listed gas-fired duct furnaces shall be installed with clearances of at least six inches between adjacent walls, ceilings and floors of combustible construction and the appliance projecting flue box or draft hood, except that duct furnaces listed for installation at lesser clearance may be installed in accordance with their listings. In no case shall the clearance be such as to interfere with the requirements for combustion air and accessibility. See 5 (a) and 13 (d). Unlisted duct furnaces shall be installed with clearances to combustible construction in accordance with the requirements for central heating furnaces and boilers, section 10 (b). Combustible floors under unlisted duct furnaces shall be protected in an approved manner. (See footnote bottom page 8).

(b) A duct furnace shall be erected and firmly supported in accordance with the manufacturer's instructions.

(c) The installation of duct furnaces shall be such as to make them accessible for cleaning the heating surfaces, removal of burners, replacement of sections, controls, draft hoods and other working parts, and for adjustment of parts requiring such attention.

(d) The ducts connected to or enclosing duct furnaces shall have removable access panels on both upstream and downstream sides of the furnace.

(e) The controls and draft hoods for duct furnaces shall be located outside the



ers and Furnaces," begins with the requirements for shut-off valves so located that it is possible to remove the burner control mechanism without permitting the escape of gas.

Major heating systems are generally installed by heating contractors, but if it is necessary for the L. P. gas distributor or dealer to make the installations, the pamphlets listed in 10 (g) and 10 (j) should be obtained and studied. Copies of the applicable state and local building codes should also be available, and their provisions followed.

Recessed heaters and floor furnaces (Sections 11 and 12, LPGA Pamphlet 1) are variations of the circulating type room heater, designed for specific locations, and sometimes serving for two or more rooms. Their installation requires modification of standard building construction if they are put in when the house is built, or alteration of the building if installed later. With both types, the recommendation is that they shall not be installed in combustible construction unless they bear the AGA listing for such installation. As in the case of the central heating plants and boilers, manual shut-off valves should be provided to make it safe to remove the controls and do other necessary service work.

### Use Screen or Grill

The special recommendations covering installation of recessed heaters and floor furnaces seem to be self-explanatory. The placing of a screen or grill over the opening of the fresh air duct of the floor furnace is of particular importance, as cats or other animals might enter the openings if in a basement, and birds might make use of the duct of a second floor heater. It would be bad to have sparrows build a nest in the air inlet, but an owl going all the way in to the blower would be a major catastrophe. Such things have happened.

Duct furnaces (Section 13) are generally rather large units, interposed in ventilating ducts to provide warm air heat for larger buildings. Since their input is high, they should always be vented to dispose of products of combustion in a safe manner.

In paragraph 13 (f) we note a provision which has not appeared in the recommendations for installation of types of furnaces previously discussed. "Circulating air shall not be

## Good Practice Rules (LPGA Pamphlet No. 1)

ducts. The draft hood shall be located in the same enclosure from which combustion air is taken.

(f) Circulating air shall not be taken from the same enclosure in which the furnace is located.

(g) Duct furnaces when used in conjunction with a refrigeration system shall not be located downstream from the evaporator coil.

### 14. Conversion Burners

(a) Installation of conversion burners shall conform to American Standard Requirements for Installation of Domestic Gas Conversion Burners, Z21.8-1948.

### 15. Gas Fired Unit Heaters

(a) Suspended type gas-fired unit heaters shall be safely and adequately supported with due consideration given to their weight and vibration characteristics.

(b) Listed gas-fired unit heaters shall be installed with minimum clearances of six inches between the appliance, projecting flue box or draft hood and combustible construction. The control side of a unit heater shall be spaced not less than 18 inches from any wall or partition. Unlisted unit heaters shall be installed with clearances to combustible construction of not less than 18 inches. Combustible floors under unlisted floor mounted unit heaters shall be protected in an approved manner. (See footnote bottom page 8).

(c) The location of any unit heater or the duct work attached thereto shall be such that a negative pressure will not be created in the room in which the unit heater is located.

(d) A unit heater shall not be attached to a warm air duct system unless listed for such installation.

(e) Unit heaters installed in garages for more than 3 motor vehicles or in airplane hangars shall be of a type listed for such use and be installed at least 8 feet above the floor.

### 23. Venting of Appliances

(a) Appliances shall be flue connected, or otherwise vented to carry off the products of combustion, in accordance with the following:

1. Any domestic appliance with input rating in excess of 50,000 Btu per hour.

2. Any appliance with input rating in excess of 5,000 Btu per hour, if the input rating exceeds 30 Btu per hour per cubic foot of room or space in which the appliance is installed. Where two or more appliances are installed in the same room or space, then the aggregate input rating of unvented appliances shall not exceed 30 Btu per hour per cubic foot of such room or space.

Note 1. Domestic gas ranges and domestic clothes dryers are excepted from the provisions of rules 1 and 2 above and are not included in arriving at the ratio of input rating to space or room content.

Note 2. Where the room or space in which the appliance, or appliances are installed, is directly connected to another room or space by doorway, arch-way or other opening of comparable size, which cannot be closed, then the volume of such

adjacent room or space may be included in the calculations of Rule 2.

3. Room heaters in sleeping quarters for use of transients or in institutions, such as Homes for the Aged, Sanitoriums, Convalescent Homes, Orphanages, etc. Such heaters must be equipped with an automatic pilot.

4. All space heating steam and hot water boilers and warm air furnaces, floor furnaces, recessed heaters, unit heaters and duct furnaces. (Not wall heaters—See Appendix A).

5. Unlisted appliances having flue collars.

6. Gas-fired incinerators.

### 5. Appliance Installation Requirements

(p) The electrical circuit employed for operating the automatic main gas-control valve, automatic pilot, room temperature thermostat, limit control or other electrical devices used with the gas appliance shall be in accordance with the wiring diagrams supplied with the appliance.

(q) All gas appliances using electrical controls shall have the controls connected into a permanently live electric circuit, i.e., one that is not controlled by a light switch. It is recommended that central heating gas appliances for domestic use be provided with a separate electrical circuit.

(r) It is recommended that any separately mounted transformer necessary for the operation of the gas appliance be mounted on a junction box and a switch with "On" and "Off" markings be installed in the hot wire side of the transformer primary.

(s) It is recommended that multiple conductor cable, not lighter than No. 18 American Wire Gauge, having type "T" (formerly type SN) insulation or equivalent be used on control circuits. Multiple conductor cables should be color coded to assist in correct wiring and to aid in tracing low voltage circuits.

(t) To assure good response by the room temperature thermostat, it should be located where it will be in the natural circulating path of room air. Avoid locations which would expose the device to cold air infiltration, or drafts from windows, doors, or other openings leading to the outside, or to air currents from warm or cold air registers, or where the natural circulation of the air is cut off, such as behind doors, above or below mantles, shelves, or in corners. Placing a thermostat which controls a central heating appliance in a bedroom, bathroom, or kitchen is not recommended.

(u) A room temperature thermostat should not be exposed to heat from nearby radiators, fireplaces, radios, lamps, rays of the sun, or mounted on a wall containing pipes or warm air ducts, or a flue or vent, which would affect its operation and prevent it from properly controlling the room temperature.

(v) Any hole in the plaster or panel through which the wires pass from the thermostat to the appliance being controlled shall be adequately sealed with suitable material to prevent drafts from affecting the thermostat.

taken from the same enclosure in which the furnace is located." This is a standard provision in the manufacturers' instructions covering the larger types of heating appliances, and is included in many building codes. It serves two purposes. In case of a gas leak at the furnace, the fuel vapor is not blown into the area being heated. Likewise, if something should happen to cause the flue gases to be discharged through the draft diverter, the products of combustion are not picked up and delivered with the ventilating air.

Paragraph 13 (g) is included because many refrigerating systems operate on flammable liquids such as ammonia. If the refrigerant should escape, which sometimes happens, it would be better not to pass it over the heated area of the duct furnace.

Section 15, "Gas Fired Unit Heaters," contains the standard provisions regarding proximity to combustible construction, the necessity for adequate ventilation to prevent de-

velopment of negative pressure in the room, and a special precaution against installation at a level in a garage or hangar at which it might pick up vapors from spilled gasoline. As an added precaution, the location of the unit heater should be such that it will not be damaged by collision from any vehicles being moved about in such a building. Particularly, it should be located away from the route that would be taken by any tall delivery truck which might enter the place. A location above the entrance door of a garage, hangar, or warehouse would be particularly bad unless the heater is mounted above the level of the top of the door opening.

We now go back to Section 5, paragraphs (p) through (v). These relate to the electrical equipment and circuits necessary for the operation of remote or automatic control equipment used in connection with heating appliance installations. These should be studied carefully. They are merely common sense applications of well

known electrical principles, and are included to provide assurance that the controls will have a chance to do the job for which they were intended.

Good L. P. gas heating equipment, if properly installed and maintained, is safe as long as it is used with proper intelligence. We can make each installation safe, and we can do our best to keep it safe by properly instructing the customer. Then we can hope that the customer remembers the few simple instructions. Keeping the old users reminded and the new ones educated is one of the unending jobs of our industry. This problem is not mechanical—it is psychological and biological, and other industries share it with us. The electrical people have been reminding customers for 50 years not to electrocute themselves in their bathtubs, but with more customers and more bathtubs every year they find it necessary to go right on preaching about safety in the home.

## Answers to Problems on Page 74 of the June Issue

Problem 1. The real indication of what fuel the range was built to operate on is the size of the orifices. If equipped with large or adjustable type orifices, the range is set up for natural or manufactured gas. No such range should be used with L. P. gas without converting it. This consists of changing the orifices of all burner valves to the correct sizes, lowering the pilot to secure a downward slope of the tubes from the burners to the pilot, and changing the burners from the natural gas type to the LPG type if tests show that the original burners do not operate satisfactorily. If the burners operate satisfactorily, but are too low for maximum flame efficiency, the burners should be raised.

The hazards connected with using the unconverted natural gas range with LPG fuel come from incomplete combustion, and include the production of carbon monoxide gas and aldehydes. The range would probably also be quite inefficient, which does not rate as a hazard but is certainly a disadvantage.

Problem 2. This calls for your own suggestions based on local conditions. We know of one very successful L.

P. gas dealer operating in a fringe area where this problem arises regularly who has worked out a very satisfactory cooperative program. He makes the installations, for which the appliance dealers pay a pre-arranged flat rate. Before taking the appliances to the customers' homes, the LPG dealer makes the conversions in his own shop, at no charge if the operation involves only the change of orifices and relocation of pilots. If burner changes are necessary, the appliance dealer supplies the parts. The other side of the cooperative deal is that the appliance dealer recommends the services of this particular LPG dealer in supplying gas to all purchasers of LPG appliances, and displays the LPG dealer's advertising sign in the appliance showroom.

There might be any number of variations of this idea, depending on local conditions. The central idea is for the LPG dealer or distributor to make sure before the appliance is put into the customer's home that it will burn LPG satisfactorily. If in the process it is also possible to make an honest dollar on the installation of an appliance that you were not able to sell, and to pick up a few new fuel accounts by working with com-

petitors instead of always against them, that is pure profit.

Problem 3. The hazard comes from the possibility that fuel might escape from the pilot burner in sufficient quantity to create a fire hazard when the owner comes back and tries to light the pilot. The ideal solution in this case would be to get the customer to put in a double cylinder set with a changeover valve, preferably automatic. Second best solution is to install an automatic shut-off valve ahead of the appliance, so the drop in pressure when the empty cylinder is removed would close the valve, and prevent passage of any gas to the appliance until the customer opens the valve manually. As a further precaution, most drivers are instructed, in making deliveries to single cylinder installations when the customer is not at home, to leave the cylinder valve closed, and put a note on the door telling the customer how to open it.

Problem 4. This delayed ignition is nearly always caused by a mislocated pilot. It should be low enough in an LPG range so the tubes slope slightly downward from the burners to the pilot. (For natural or

*(Continued on page 156)*

# Problems for Discussion at Seventh Safety Meeting

These problems are principally of the school examination type — the old fashioned memory test. There does not seem to be any other way to do the job on a subject that is so full of detail as the house heating situation.

In the written study material, we have tried as far as possible to point out the corresponding application of the same principles to all types of heaters, which will help in the process of remembering.

Some of the questions below cannot be answered from the information given in the study material. This was not because of carelessness — we are purposely directing attention to the local regulations in your own community, which may be based in general on the same source material which we have used, but frequently differ in detail. Where these differences exist, they are often more stringent than the nationally recognized patterns. That's human nature — the local boys like to give themselves credit for taking something good and making it better (tougher). But you are doing business with the local authorities, and compliance is advisable.

Our answers to these questions will be published in the August issue, along with the safety meeting program based on this assignment. But don't wait for our answers. Figure out your own solutions, and make comparisons later.

## Problem 1.

What are the four hazards we must watch out for in connection with L. P. gas heating? How can we protect against them?

## Problem 2.

What sizes, types, and applications of heaters does LPGA Pamphlet 1 say should be vented? Are there any additional requirements specified in the state and local codes applying to your locality?

## Problem 3.

Why does LPGA Pamphlet 1 say that there shall be at least 18 inches clearance between the front or control side of a central heating boiler or furnace and "combustible construction"? Should we consider that this limitation applies to any other form of construction?

## Problem 4.

Suppose that a new customer moved into your delivery territory and asked you to connect up a room heater that you had not sold to her. What would you expect to do to the heater to prepare it for use with L. P. gas if:

- (a) the heater had previously been used with manufactured gas?
- (b) the heater had been bought at a store and the customer had not previously used it?
- (c) the heater was unlisted, and had been used on L. P. gas obtained from another dealer?

## Problem 5.

What hazards might be encountered in attempt-

ing to use a heater set up for manufactured or natural gas, with no conversion changes, when connected to an L. P. gas fuel system?

## Problem 6.

Why is it considered inadvisable to use an adjustable orifice with L. P. gas burners?

## Problem 7.

LPGA Pamphlet No. 1 recommends that all room heaters in sleeping quarters for transients or in institutions, such as homes for the aged, sanatoriums, convalescent homes, orphanages, etc., shall be vented, and also equipped with automatic pilots. Give all the reasons you can to show the soundness of this recommendation from the standpoint of safety. Do your local regulations require you to conform to this recommendation?

## Problem 8.

Why should all heating appliances operated by either remote or thermostatic control be equipped with automatic pilots of the complete shut-off type?

## Problem 9.

Describe the shut-off valve arrangements recommended in Pamphlet 1 for use with (a) central heating installations not having complete shut-off automatic pilot systems; (b) those having complete shut-off automatic pilot systems. What fitting is necessary on the downstream side of the main manual shut-off valve? Why is it used, and where should it be located in relation to the automatic burner control mechanism?





# METERED GAS



L. C. Fritts, president of Tri-Gas of Springfield, Inc., discusses Meter Plan of Operation with the author.

By Ernest Fair

Field Editor  
Butane-Propane News

ANY plan which builds business, provides a sure counter-balance against "bobtail truckers" and minimizes storage problems is one for which every LPG dealer searches. Some find it; many do not.

Tri-Gas of Springfield, Inc., Springfield, Mo., of which L. C. Fritts is president and general manager, has developed such a plan. Called the "Meter Plan of Operation," it has enabled this firm to place 600 tanks of 1000-gal. capacity with rural customers. The plan was developed by Mr. Fritts, Charles Petterson, Sr., secretary-treasurer, and E. J. Kropa, vice president of the company.

Under the plan a 1000-gal. tank is installed as soon as the customer signs up for service and pays a \$50 installation fee. After the tank is filled, the customer is given a book of blank forms for use in reading his own meter and sending his payment for LPG consumed each month. See Fig. 1.

"This idea naturally costs a little to finance," Mr. Fritts points out,

"but it answers so many problems in the operation of an LPG business and builds volume so readily that there's no question of its being worth while.

"It sells because the customer doesn't have to purchase a tank to get gas service. He can also pay for his gas as he uses it and not in a lump sum by the tankful, and that also helps make sales.

"From our standpoint, besides building business, it also solves the problem of losing gas sales to cut-price operators who come around and try to sell into the other fellow's tank.

"In addition, getting these big tanks out helps smooth out our storage problems, and that's a big advantage in these days and times."

Under the plan the customer reads his own meter the first of each month and makes his remittance before the tenth of the month to avoid a 5% penalty thereafter, which is part of the contract. A minimum charge of \$3.50 is made on the monthly bills, with the first 30 gals. or less being billed at 21 cents and all over 30 gals. at 12 cents.

The first page of the meter book carries a list of safety rules which are discussed with the customer

● Builds  
Customer Confidence

● Eases  
Storage Problems

● Cuts  
Delivery Expense

when the installation is made. The reverse side tells him how to make out his bill, how to read the meter and how to use a rate schedule chart which shows amounts from 0 to 30 gals.

The first bill in the book is filled out in red printing to shows the exact procedure, and Mr. Fritts emphasizes that this is an absolute necessity, for most consumers never have handled this type of statement and will be at a complete loss as to how to proceed.

Fifteen bills are bound into each book with a stub for recording the necessary data. The 13th blank is printed in color as a warning that the book is nearing completion when it arrives at the company office so that a new book can be mailed to the customer. The bound book is punched with a hole at the top so that it may be hung on a nail in the customer's kitchen.

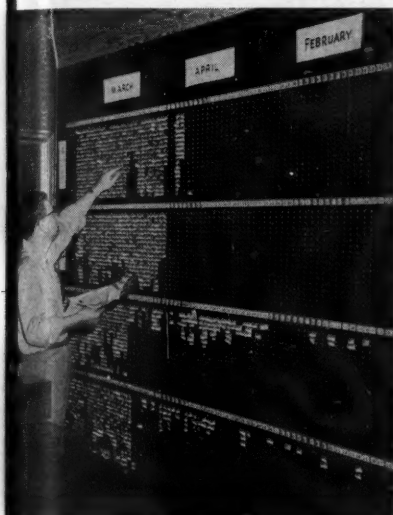
The company checks against customer readings when the next delivery of gas is made, with readings thereon being noted by the driver and checked against office records. The percentage of discrepancies has run less than 1%, and all were oversights rather than intentional errors, Mr. Fritts recalls.

The ledger sheet kept on each meter installation gives the name, address, tank size, serial number, date installed, gas price, check for type of tank and how deliveries are

"This plan is not only a business builder," Mr. Fritts explains, "but it

<p><b>BE SURE TO FILL OUT THIS STUB FOR YOUR REFERENCE NEXT MONTH</b></p>	<p><b>TRI-GAS OF SPRINGFIELD, INC.</b>          1800 S. Glenview      Springfield, Mo.</p>	<p>Account No. _____</p>
<p>Date _____ Month _____ 1st Date _____ 19 ____ Year ____</p>	<p>Date _____ Month _____ 1st Date _____ 19 ____ Year ____</p>	
Present Reading - - - - -	Present Reading - - - - -	Payment cannot be credited to your account unless this is filled out, signed and submitted with your remittance.
Previous Reading - - - - -	Previous Reading - - - - -	
Gallons Used - - - - -	Gallons Used - - - - -	
Gas Service - - - - - \$ _____	Gas Service - - - - - \$ _____	
2% Sales Tax - - - - - \$ _____	2% Sales Tax - - - - - \$ _____	<p><b>YOUR REMITTANCE--</b>          Add 5% penalty to amount for Gas Service if payment is not mailed by the 10th day of the month.</p>
_____	_____	Customer's Name: _____
Total Net Bill - - - - -	Total Net Bill - - - - -	Signature _____
5% Penalty after 10th - - - - -	5% Penalty after 10th - - - - -	
Total Gross Bill - - - - -	Total Gross Bill - - - - -	

Fig. 1



**Control Board** is used to provide quick, visual record of customers, size of their tanks and tentative delivery date for LPG.

"When we place a metered tank on the customer's premises we know we can always put gas therein, and there is no problem of competition involved as long as the tank stays there. If a competitor wants to put his gas in one of these tanks, well and good, because he can get paid only when our customer pays us—something very unlikely to happen. The 'bobtail' operators steer clear of our tanks in the 50-mile radius area we serve out of Springfield!"

Delivery control is maintained with the ledger sheet (Fig. 2) which shows the status of each tank from data taken off the monthly remittance bills and drivers' tickets. However, absolute control is further in-

The board is divided into three-month periods with dates for each month shown by insert numbers along the first horizontal line. A section of the board covers each of four routes operated by the company. Within the section are rows of tiny hooks located directly underneath the days of the month.

Each customer's name and tank size is written on a small card which is placed on one of these hooks directly under the date when records of experience show his tank will probably need filling again. After each delivery these tabs are moved to the next probable date on the right side of the board when that customer's tank will need refilling.

At the start of each day a clerk runs down the line for each route under that particular date and makes notes on the driver's route slip of all

customers whose tabs indicate a tank refill. The tabs are returned to the "control board" after actual deliveries have been made, and placed under the next date when a particular customer's tank may need refilling.

The customer tabs have space for making notes which the driver should know, such as the credit status of the customer if the tank is other than a metered tank.

Tri-Gas has also found that its meter plan of selling installations has been a big booster in appliance sales, as their system doesn't require the customer to make a large investment in a tank. Thus, he has money left to spend on appliances in the store. The firm handles Tappan, A. O. Smith and Dearborn hot air heating as their main appliance lines. They are distributors in the area for A. O. Smith hot water units, and the LPG tanks used for installations are also made by the A. O. Smith Co.

[illegible]

Fig. 2

# \$250,000 Country Location Builds Volume for Dealer



Unique merchandising experiment in this new 18,000 square-foot appliance store "in the country" located near Waco, Texas.

By Hilda Galloway

ONE of the most unusual bids for gas appliance sales expansion in the history of Texas took place when Cogdell's, Waco, Texas, formally opened its beautiful new West View-Suburban showrom.

Instead of merely following the general trend toward suburban or community shopping districts outside the downtown shopping area, the Cogdell management, headed by Mr. and Mrs. Leo Bradshaw, calmly invested \$250,000 in a 18,000 sq ft. store located miles out of the city. Situated on Highway 6, next to the area's largest drive-in theater, the West View-Suburban with its huge gas appliance department stands alone. There are no other stores of any description for at least two miles in either direction, and open fields of Johnson grass on all sides make the store stand out like an ocean liner on a desert.

It required considerable courage of convictions to make so radical a

change, according to Albert Cross, merchandising manager with more than 15 years of experience in selling gas appliances to central Texans. "We might have set up in a residential neighborhood, and let it go at that," he smiled. "However, we believe that the expansion of the city

is going to bring the suburbs to us instead, and that if the store offers enough, people will be willing to hop in the family automobile, and drive several miles in order to shop with us."

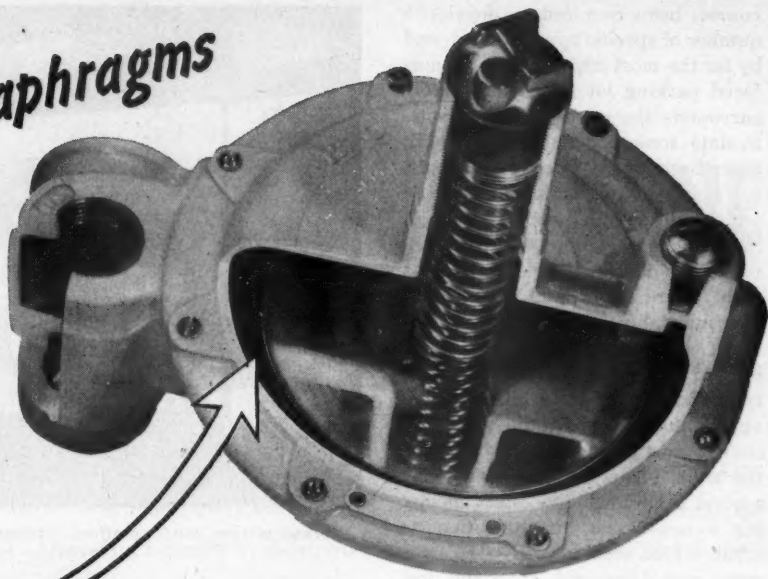
In order to make the above situation come true, Cogdell's has, of

Appliance department draws record traffic at new store.





**Standardizes Diaphragms**  
for natural,  
manufactured  
and liquefied  
petroleum  
gases



**Du Pont "Fairprene" in gas regulators withstands greater pressures, resists gases and atmospheric conditions**

#### **"TEFLON"\***

**Tetrafluoroethylene resin  
coated glass fabrics**

These materials, designed primarily for the electrical industries, have found many applications in other fields because of their unique combination of properties. Diaphragms, gaskets, conveyor belts, fuel cells, and nonsticking covers for heating elements on packaging equipment are only a few of the other uses to which they have been put.

Their extraordinary properties include:  
Flexibility at -100°F., continuous use at 1500°F., essentially complete chemical resistance, self-lubrication, and exceptional anti-adhesive or non-sticking ability.

For further information on the properties and uses of these unique materials clip and mail the coupon below.

\* REG. U.S. PAT. OFF.

Providing diaphragms for regulator valves, suitable for use in natural, manufactured and liquefied petroleum gas services calls for a special type of material. The material used must withstand high pressures, have exceptional flexibility and durability.

The Rockwell Manufacturing Company found that diaphragms made of Du Pont "Fairprene"† No. 5029-A coated nylon fabric, used in their 107 series valves, will withstand increased pressures without leakage. It also has greater flexibility. And the relative inertness of "Fairprene" to the action of gases and atmospheric conditions provides longer diaphragm life.

What's more, they found that diaphragms made with "Fairprene"

have a greater tear strength, burst strength, resistance to loss of coating when subject to aromatic solvents encountered in manufactured gas.

"Fairprene" is preferred in many kinds of diaphragms—and in hundreds of other industrial uses—because it's tough, lightweight, has a low permanent set or drift and resists aging in air or oxygen as well as gasoline, grease and kerosene.

Du Pont engineers will gladly work with you to evaluate "Fairprene" for designing new products, or for improving your present products or manufacturing methods. They'll work with you in engineering special grades of "Fairprene" to meet your specific needs. For prompt assistance, fill out and mail the coupon below.

## **DU PONT "FAIRPRENE"**

*synthetic elastic compositions*

**"ENGINEERED TO DO YOUR JOB BETTER"**



REG. U.S. PAT. OFF.

**BETTER THINGS FOR BETTER LIVING...THROUGH CHEMISTRY**

†"FAIRPRENE" is Du Pont's registered trade mark for its line of products made from synthetic elastomers available in the form of coated fabrics, sheet stocks without fabric insert and adhesives.

E. I. du Pont de Nemours & Co. (Inc.)  
Fabrics Division,  
Empire State Building, New York 1, N. Y.

- ☐ Please send me booklet "FAIRPRENE" synthetic elastic compositions."  
☐ Please send me Technical Bulletin "TEFLON" Coated Glass Fabrics!"

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm \_\_\_\_\_

Address \_\_\_\_\_

course, been required to develop a number of specific appeals. First, and by far the most important, is the surfaced parking lot which completely surrounds the store. It will accommodate some 550 automobiles with ease. Second, the store is open until 9 o'clock each evening, a facility which will permit husband-and-wife shopping combinations, something relatively new in the central Texas area. Third, the 18,000 sq. ft. store is comfortably air conditioned, features pleasant lounges and chairs spotted here and there for restful relaxation, and above all, has eye-appeal unmatched in the area. As shown, most of the 200-ft. frontage of the store is composed of glass, with a novel French window effect enclosing a neo-classic furniture department, which was added as the new store was developed. Through the broad windows, and by means of an intensified cold fluorescent lighting system, small details of the 80-odd appliances which appear on the sales floor can be clearly seen by passing motorists.

The appliance department, with Manager Walter M. Colbert as Mr. Cross' first lieutenant, will profit from the "impulse buyer" through intensive newspaper advertising, through the efforts of an outside sales crew, and finally, the 38-year-old reputation of the firm. For a number of years, Cogdell's has oper-



Broad picture windows afford interesting views day or night and serve as an "invitation to stop and shop."

ated three appliance stores in the downtown Waco area, one of which was closed prior to the West View-Suburban opening.

While discussions of the striking new store were already on everyone's lips, long before the actual opening, Cogdell's presented a 10-page special newspaper section to announce the new store and offered \$2000 in appliance prizes, to bring traffic in. Results were little short of sensational, as upwards of 20,000 persons streamed through the store the first few days. They found a

beautifully laid out hardware department, major appliance section, supporting housewares sections and the new furniture section replete with pastel colors, blonde hardwood display fixtures, aisles 8 ft. wide for easy traffic flow, and extreme touches in decor. A highlight of the opening, incidentally, was presentation of Waco's first closed-circuit television demonstration, which permitted customers entering through the main door to see themselves televised on 12 sets spotted strategically through the store.

## Green's Fuel Holds 21st Annual Convention

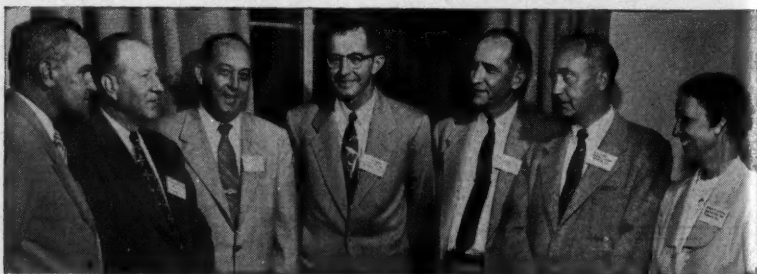
With more than 150 persons in attendance, the 21st annual distributors' convention of Green's Fuel, Inc., Sarasota, Fla., held recently at Ashville, N. C., enjoyed a visit and address by Mel Trotter, Columbia, S. C., newly elected president of LPGA.

Following a registration period and luncheon on the first day, speakers included: S. J. Pryor, engineer, Hartford Accident & Industrial Co., Atlanta, who spoke on "Will L. P. Gas Insurance Problems Be Solved?"; Howard D. White, executive vice president, LPGA, who covered the "Current and Future Outlook of the L. P. Gas Industry"; and Dr. Frank Goodwin, University of Florida, who discussed "Can We Improve Our Salesmanship?"

The second day of the convention featured talks by Walter H. Miller,

president, Dri-Gas Corp., Chicago, speaking on "The Development of Industrial and Commercial Loads"; and Nils D. Sellman, regional air

conditioning manager, Servel, Inc., Evansville, Ind., whose subject was "Servel Gas Air Conditioning Will Solve Summer Load."



In attendance at Green's Fuel, Inc., 21st annual convention, left to right: Dr. Frank Goodwin, University of Florida; Howard White, executive vice president, LPGA; Mel Trotter, newly elected president LPGA; Taylor Green, president, Green's Fuel, Inc.; Tom Fields, regional director LPGA; K. H. Koach, vice president and general manager, Green's Fuel, and former president, LPGA; S. A. Jackman, secretary-treasurer, Green's Fuel, Inc.



# Here's the PROPANE CYLINDER for You!

Compare feature for feature and you'll decide to use PREST-O-LITE cylinders for liquefied petroleum gases—they are unquestionably the No. 1 quality cylinder. Sturdy PREST-O-LITE cylinders lead the field because of their longer service life, light weight, uniformity of wall thickness, and superior design. They're backed by over 35 years of experience and skill in the development, manufacture and use of compressed gas cylinders. You get the greatest overall saving from the best cylinders.

Available in the popular 20-lb., 40-lb., 60-lb., and 100-lb. sizes, with or without valves. Other sizes, or styles can be easily made to your specifications. And the crevice-free, ventilated foot ring practically eliminates corrosion around the bottom of the cylinder. PREST-O-LITE cylinders not only meet I.C.C. Specification 4BA-240—they undergo many additional rigid tests far beyond minimum requirements, such as testing for leaks with dry air after the hydrostatic tests.

For more information on PREST-O-LITE cylinders that will meet your needs, merely fill in the coupon below and mail it today.

**Prest-O-Lite**  
Trade-Mark

L-P GAS CYLINDERS  
ARE YOUR BEST BUY

"Prest-O-Lite" is a registered trade-mark  
of Union Carbide and Carbon Corporation.



## LINDE AIR PRODUCTS COMPANY

A Division of  
Union Carbide and Carbon Corporation  
30 East 42nd Street **NEW YORK 17, N. Y.**

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In Canada:  
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Linde Air Products Company  
30 East 42nd Street  
New York 17, N. Y.

P-4C

Send full information about PREST-O-LITE cylinders for liquefied petroleum gases.

NAME.....

COMPANY.....

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**REGO No. 5724 SERIES OUTFITS**



# New!...LOW COST MANUAL THROW-OVER MANIFOLD

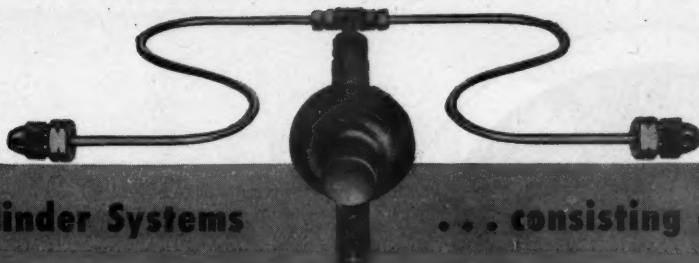
**REGO No. 1421**

**REGO No. 5725 SERIES OUTFITS**

## Highlights of the new REGO No. 1421 Manifold . . .

- Compact Design—Actual Width only 2½". . .
- Sturdy Forged Brass Body with Simplified Internal Parts . . .
- Positive Cam Action Opens One Side of System and Automatically Shuts Off Other Side as Hand Lever is Moved . . .
- Easy To Use—Arrow on Lever Indicates Cylinder in Service . . .
- Special Composition Seats for Long Wear and Leakproof Operation, Ample Seat Depth Provides Take-up for Wear . . .
- Available in Portable Cylinder Outfits as Shown on the Opposite Page . . .
- Listed by Underwriters' Laboratories, Inc.

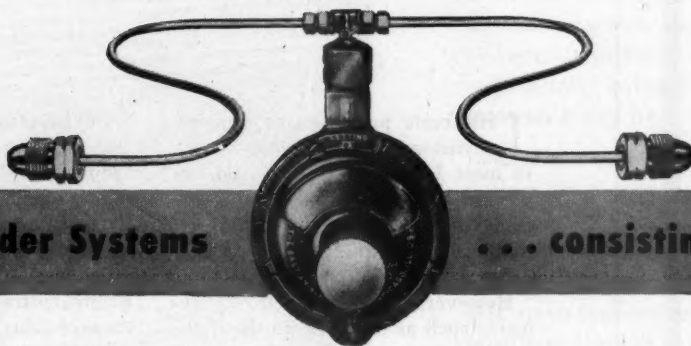
**PIONEER AND LEADER IN THE DESIGN AND  
MANUFACTURE OF PRECISION EQUIPMENT  
FOR USING AND CONTROLLING LP-GASES**



... Portable Cylinder Systems

... consisting of:

RegO No. 1421 Manual Throw-over Manifold ...  
 RegO No. 2303A2 Low Pressure Regulator ... Two  
 RegO No. 5700 Series Pigtails (furnished straight  
 or with S or loop bend, as specified) with  $\frac{1}{4}$ "  
 Inverted Flare Connections at Manifold End and  
 Standard POL Connections at Cylinder End ...  
 RegO No. 2303-27 Mounting Bracket.



... Portable Cylinder Systems

... consisting of:

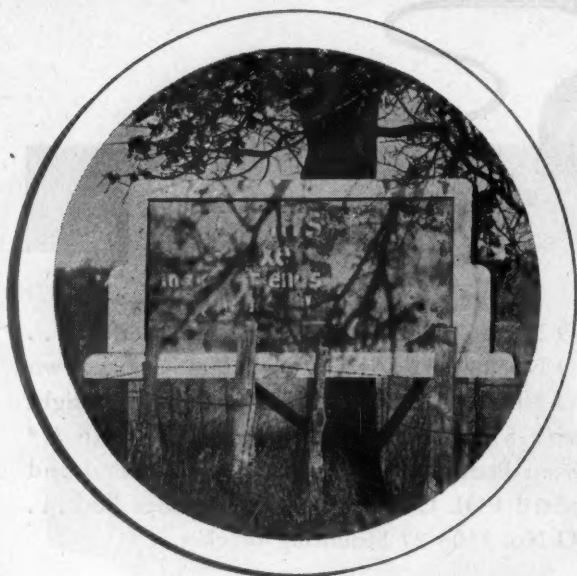
RegO No. 1421 Manual Throw-over Manifold ...  
 RegO No. 2403A2 Low Pressure Regulator ... Two  
 RegO No. 5700 Series Pigtails (furnished straight  
 or with S or loop bend, as specified) with  $\frac{1}{4}$ "  
 Inverted Flare Connections at Manifold End  
 and Standard POL Connections at Cylinder End.  
 RegO No. 2503-19 Mounting Bracket Available if  
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**REGO**  
**LP GAS EQUIPMENT**  
 Stocked by These Distributors  
 GAS EQUIPMENT CO.  
 Dallas, Texas  
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 Atlanta, Ga.  
 GAS EQUIPMENT CO.  
 of DENVER - Denver, Colo.  
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RegO is the registered trade mark of the Bastian-Blessing Co.

The **BASTIAN-BLESSING** Company  
 4201 W. Peterson Ave., Chicago 30, Illinois



# It Takes **MORE** Than Just A Sign

By Ernest W. Fair

Field Editor  
Butane-Propane News

**T**HE basic principles of sign advertising are fairly well known to most L. P. gas dealers. So important has outdoor advertising become in LPG dealership operation that acquiring this knowledge is a definite "must."

However, the established requirements such as locations on the highways of heavy traffic, selection of colors which can be read easily at the greatest distance, spotting where they can be easily seen and the use of eye-catching words are far from enough to assure maximum return from our dollar investment in outdoor signs.

## Maintenance Is Important

Take for example, the sign shown on this page. It points up the great importance of constant attention to maintenance, even though this sign is an extreme example. A sign such as this is utterly valueless. One in readable condition but shabby and unkempt is even worse, for it advertises our business as one whose services are in all likelihood as bad as the sign itself.

The wise dealer makes a monthly checkup of every sign he has out for this reason. Some dealers require this as a regular duty of truck driv-

ers to keep up maintenance on roadside signs as they go about making their gas deliveries. The condition of any one sign can drive a prospective customer away from our business, even if we have him sold to the point of signing on the dotted line. Bright, attractive signs sell while those obviously unattended for a long period of time discourage.

## Cost Is Not A Factor

It costs very little to touch up most signs—in fact, if it is done often enough an ordinary maintenance man can do the job, and a great deal of preventive maintenance can be performed by anyone making the inspection. This applies not only to painting but to maintenance of the wood and sign mounting as well.

Even if a sign is brightly painted and attractive it can do little good if it is leaning forward or backward. Such a sign will fail to attract attention in the first place. A few nails here and there can remedy such a situation. It's also wise to carry along a weed cutter of some sort, for it takes but a week or so for weeds and grass around a sign to do a good job of hiding at least part of that message.

Many sign companies offer such



# Dearborn AREA HEAT

*makes sense to your customers  
makes dollars for you!*



**D**earborn Area Heat makes plenty of sense to your customers because it costs *less to buy...less to install...less to operate* than any other type of heating equipment. It makes sense because it puts *uniform warmth* all over their house—*keeps* it uniform with individually controlled thermostats on every heater, in every area.

Area Heat can make plenty of dollars for you because it doubles and triples your Dearborn sales. Dearborn Area Heat sales are **MULTIPLE SALES**. You sell up to 6 or more heaters per customer instead of the usual single unit sale. And with every heater sold you automatically sell a Dearborn automatic control—extra profits thrown in with no selling effort on your part.

Now is the time to start your big summer Dearborn Lay-Away promotion. Make it a real promotion with the biggest sales and profits in your history by selling Dearborn Area Heat. Make **MULTIPLE SALES** and you'll multiply your profits!

We're putting the heat on Dearborn Area Heat—building a fire under profits for you—with a strong national advertising campaign in the nation's top magazines!

⚡ Ask your Dearborn representative about Area Heat if you don't already know the full story. Or write, call or wire us for more information. It's the most sensible, saleable, profitable way to sell heaters in heater history!

## Dearborn STOVE CO.

1700 WEST COMMERCE ST., DALLAS, TEXAS

### REGIONAL SALES OFFICES:

- Merchandise Mart, Dallas, Texas
- 5830 North Pulaski Road, Chicago, Ill.
- 513 Glenn Building, Atlanta, Ga.
- 303 Merchandise Mart, Kansas City, Mo.
- 3625 South Grand Avenue, Los Angeles, Calif.
- Merchandise Mart, San Francisco, Calif.



Fig. 2

maintenance service in their contracts. Ordinarily, however, the gas dealer will find it to his advantage to supervise such maintenance himself, whether done by the sign company or by his own employees. Far too often the sign company and the dealer have wide divergence of opinion as to what constitutes proper maintenance and attention to signs.

### Bad Signs Lose Business

Too often we think only of signs as selling mediums, but they can actually drive business away—if the impression they leave is a bad one. What other impression could a passing motorist get from a sign such as the one shown at the beginning of this article.

Another condition to avoid is having signs buried in a cluster of other signs. The first sign in such a cluster will be easily read at some distance, but suppose our sign is the third or fourth in the row—what then? The motorist driving by at from 50 to 80 miles an hour can receive an impression only from the first sign. He sel-

The back of certain types of signs offers excellent opportunities for getting over a "quick" message or name of a product.



dom is able to notice the others in such a cluster.

Such conditions frequently arise without the gas dealer's knowledge. The initial placing of the sign may have been done when it was all alone but as time goes by other signs are planted around the spot, and before we know what has happened our sign is completely "boxed" in and of no value whatsoever. A monthly inspection trip will reveal this, at which time we may find it advantageous to move the sign to a new location, unless it is still the first one in the group.

The clustering of signs around our own office, store or bulk station itself can prove wasteful. As we add line after line, service after service, we spot additional signs at the front and soon the prospective customer has no chance whatever to absorb any one suggestion. Under such conditions, the selling effect of all of the signs diminishes to the vanishing point.

The solution is in making certain that such signs are widely scattered around the area and are not grouped together. Locate each sign so that it won't fight for attention with another sign if you want it to do a good selling job.

### Signs Have To Be Seen

Sometimes we are told that the clustering of signs has a mass effect in establishing our firm as the leader in the field with the most lines or the most services. There may be some truth in this theory but the actual sales value is highly questionable. Just remember—signs have to be seen to be read—and most people are too busy to stop and carefully read or analyze any sign no matter how good it may be.

Fig. 2 shows a dealer's sign which embraces a host of good readability rules. It is placed in a desirable spot on a curve of a flat highway where motorists have to slow down and cannot help but read it. The sign sets against a dark background rather than the sky, and it tells its message in a few words, with "Butane Car-buretors" being strongly featured.

Fig. 3 shows good usage of a small sign with an arrow pointing to the location of the firm and how to reach it. The message is short and to the point. When we travel along a highway at normal speed we seldom have much opportunity to read a long mes-

sage or digest a lengthy suggestion.

All such signs, whether small or large, create maximum effect when ideas are presented in as few words as possible. People are not going to stop to study our signs no matter what we put on them. Our message has to be presented so that it can be absorbed in the few seconds that it takes to pass the sign. So, follow this rule: very short messages in areas of high-speed traffic—longer messages where road conditions force slow-down in traffic.

All of these features are of the utmost importance in our signs today. Signs can do a powerful selling job for us if we give them constant attention—regular maintenance—and design them to fit today's high-speed travel conditions.

LPG dealers often overlook other excellent opportunities for outdoor

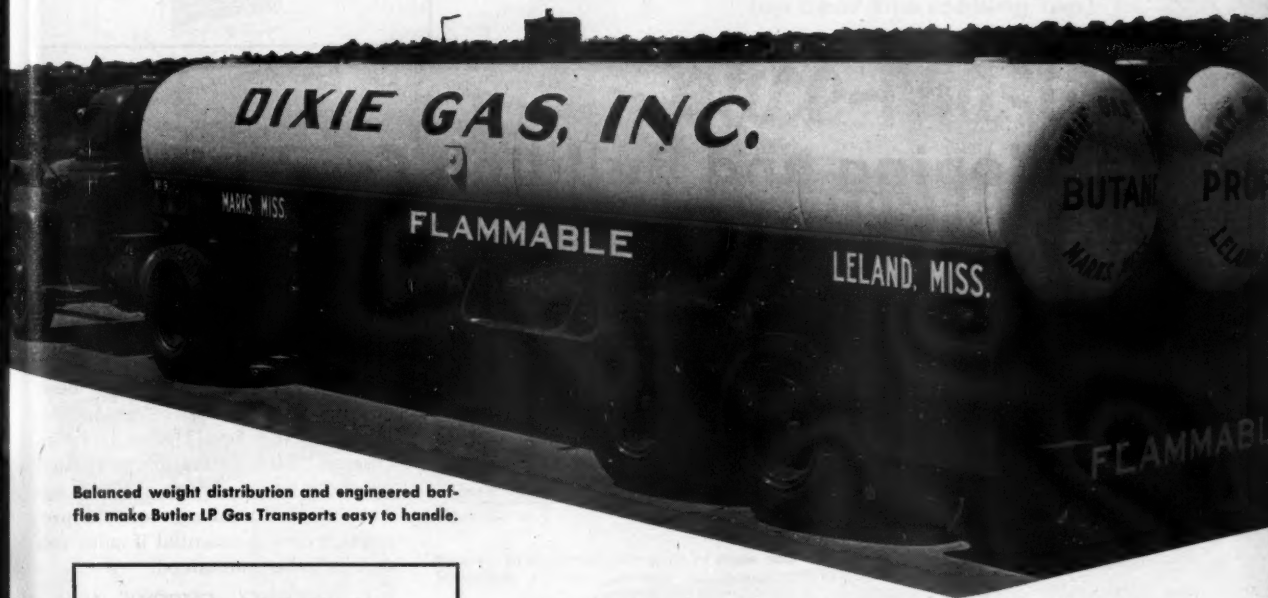


Fig. 3

advertising. For instance, every gas dealer knows one of his best sources of future business is in commercial truck use of butane. Most dealers power their own trucks with this better all-around fuel, but few bother to use those same trucks as advertising media with which to sell others on the same idea or, at least, with which to arouse people's curiosity.

An exception is the Superior Supertane Co., 107 Washington, in Marshalltown, Iowa. Maynard Rowning, manager, has painted this message in big and bold letters on each cab door of the firm's trucks: "Powered with LP Gas." This message has induced many a central Iowa truck owner to ask questions and have a conversion done on his own vehicle.

# Here's why BUTLER LP Gas Transports pace the industry



Balanced weight distribution and engineered baffles make Butler LP Gas Transports easy to handle.

## Make local deliveries fast with BUTLER LP Gas Truck Tanks

Three-way piping saves time filling and loading; lets you pump into, out of, or between tanks.



## Sell the system your customers deserve—the New *Blue Belle*.

Protected end fittings prevent damage.  
500, 605 and 1,000-gallon sizes.



Butler has pioneered in the development of LP Gas transports. This leadership has resulted in equipment that paces the industry, making possible greater profits to transport operators. That's because Butler LP Gas transports cut costs in these ways:

1. Built for millions of miles of service.
2. Loading and unloading is fast with convenient piping.
3. Down time is reduced with quality construction.
4. Maintenance, when necessary, is easy and low-cost.
5. Greater pay loads are possible within state laws.
6. Driver, load and customers are safe.
7. Smooth sides, lasting 5-step coating are ideal for your advertising.

For complete information on  
profit-making Butler Transports...



send coupon  
for free  
catalog

**Today!**

KANSAS CITY, MO.

Birmingham, Ala. — Richmond, Calif.  
Galesburg, Ill. — Minneapolis, Minn.



OIL EQUIPMENT — STEEL BUILDINGS  
FARM EQUIPMENT — CLEANERS EQUIPMENT  
SPECIAL PRODUCTS

## BUTLER MANUFACTURING COMPANY

7410 East 13th St., Kansas City 26, Missouri  
910 Sixth Ave., S.E., Minneapolis 14, Minnesota  
Dept. 10, Richmond, California

Please send me your free catalog on Butler LP Gas Transports.

Name.....

Firm.....

Address.....

City..... Zone..... State.....



# Retail Credit and Collections

In Five Parts — Part Four

By Sterling S. Speake  
Retail Credit Specialist  
The University of Texas  
Division of Extension  
Austin, Texas

## Developing and Building Credit Sales

**N**O BUTANE dealer is too small to have a definite credit policy. The value of a definite butane credit policy cannot be over-emphasized. A definite credit policy improves customer relations through elimination of misunderstandings and through elimination of "special privileges" to certain customers.

A definite credit policy enables a firm to command better respect in the community because customers understand the credit agreement better and will pay first the firm which seems more businesslike in its transactions. A definite credit policy minimizes the possibility of customers becoming "over-sold" by establishing adequate control measures and by requiring sales in certain amounts to be properly approved.

There are certain points to consider in the formulation of a definite credit policy. First, the type of clientele served must be considered. Whether they are in the high, medium or low income group and whether they are basically industrial, agricultural or diversified groups. Secondly, credit policies of competitive business establishments should be studied, and third, sound credit principles as reflected in the light of past experience. Specific decisions must be made as to:

*When shall books be closed for the month?*

*When shall statements be mailed?*

*What number of days shall elapse before account is considered delinquent?*

*What action is to be taken if an account becomes delinquent?*

*How many days are to elapse before follow-up is made?*



Use signs in store and windows to interest prospects in opening charge accounts.

*What action is to be taken if results are not obtained?*

*What amount of down payment shall be required for contract accounts?*

*What minimum monthly or weekly payments will be acceptable?*

*What per cent of interest or carrying charge will be in effect?*

*What type of legal instrument is to be used for secured accounts?*

*What attitude shall the firm take regarding partial payments?*

Publicizing the firm's credit policy is a good business practice. It builds good will for the firm and improves collection percentages. Careful explanation of the credit policy to the customer at the time he is accepted is one good method to use. Other ways of publicizing your credit policy is through the distribution of a printed booklet, "greeting" letters to new customers, and a well-informed sales force.

Within the credit policies of the butane dealer a well planned credit sales promotion program is important. Such a program will seek out the most desirable credit customers

and will contribute greatly toward building a strong credit structure within the firm. The following credit sales promotion ideas have been tested and proved to be productive inasmuch as credit sales have increased. These ideas are presented for those who desire to enter an aggressive credit sales promotion program, which is essential if sales volume is to be maintained.

**1. PAYROLL CHECKS.** Names taken from payroll checks offer a splendid source for getting new credit customers. Enough information appears on the check to enable you to actually start the execution of the application blank. From this information you know where the customer works and when he is paid. You also have his signature, his address and you know how much he earns.

**2. NEWCOMERS.** As new industries open, as employment opportunities increase with the increase in distribution, and when housing conditions change, people will move about from city to city and state to state in an effort to improve or to maintain their standards of living. These newcomers offer a splendid opportunity for increasing credit sales volumes. Generally, lists may be secured from Chambers of Commerce or merchants' bureaus. Letters or personal contacts with these newcomers will make a lasting impression of good will for your firm.

**3. LAY-AWAY.** Information taken from the lay-away slip is invaluable in getting leads on new prospects. When the merchandise is delivered, a letter of thanks to the customer

THE ONLY 30-INCH GAS RANGES . . .



... with wonderful **COMFORT-LEVEL BROILING**  
(up near the cooking top)

beautiful, new  
**ROPER**

**Space-Master**

automatic  
**GAS RANGES**

**MOST COMPLETE  
LINE OF MODELS  
IN THE INDUSTRY**

...for all gases

FAMOUS "INSTA-SET" PANEL  
Including "Insta-Matic" Clock,  
"Timed" Convenience Outlet, Pre-  
cision "Melody" Timer and Fluor-  
escent Lamp Switch

"SPECTRO-MATIC"  
BURNER CONTROL  
Color Selection of the Ideal Heat  
Speed for Every Cooking Operation

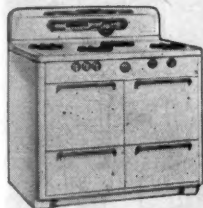
BIG FULL-WIDTH BROILER  
Perfectly Positioned for Comfort  
and Convenience

FULL 24-INCH ROASTING  
AND BAKING OVEN . . .  
Handles everything from a squab  
to a 35 lb. Turkey or 10 loaves of  
Bread or 6 Layer Cakes

SENSATIONAL NEW STYLING  
with Instant Eye Appeal. Smaller  
on the Outside — Bigger on the  
Inside!

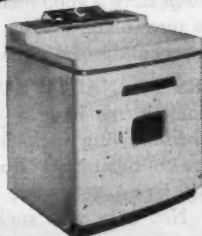
FLUSH-TO-BACK and  
FLUSH-TO-END  
CONSTRUCTION  
Compact and complete

BUILT TO STANDARDS



Sensational Deluxe  
"SPECTRO-MATIC"  
GAS RANGES

Fully-Automatic  
*Dry-Aire* GAS  
CLOTHES DRYER



Geo. D. Roper Corporation, Dept. BPN 753.  
I'm interested in the Profitable Roper Franchise.  
Send Complete Information.

Company Name.....  
Individual.....  
Street Address.....  
City..... State.....

GEO. D. ROPER CORPORATION  
ROCKFORD, ILLINOIS

OFFICES AND WAREHOUSES IN PRINCIPAL DISTRIBUTION CENTERS

with an invitation to open a charge account should be mailed.

**4. EMPLOYEE CONTESTS.** This is a procedure which many firms have tried and which has been highly successful. Employees are paid on the basis of each new account accepted. This tie-up between the sales force and credit office is invaluable.

**5. CITY DIRECTORIES.** City directories or telephone books from towns within the trade territory will help in evaluating out-of-town prospects. Promotional letters should then be mailed to select groups in each town.

**6. CUSTOMER RECOMMENDATIONS.** If personal references are required on the application form, check the names against credit files in order to secure potential credit customers. Also, when customers come in to pay their accounts, they can be asked to recommend some friend whom they think would be a prospect. Most customers take pride in being asked for their opinion.

**7. NEWLYWEDS.** Follow the society columns of your local papers to find the information needed about the engaged couple and their parents. Many things will be needed for the wedding and many more after the home is started. Letters of "best wishes" will create a kindly feeling toward your firm. They are customers of tomorrow.

**8. NEW BUDGET ACCOUNTS.** Stores offering a budget account and a regular charge account service, often ask new budget account customers to also open a charge account.



Telephone solicitation can develop new charge accounts for every business.



Newlyweds offer excellent prospects for becoming good credit customers.

Tie them to your store now, or they may open that regular charge account "down the street."

**9. CASH SALE DELIVERIES.** The information needed will be on the delivery receipt or sales check. Check these names, and send letters to all desirable credit risks.

**10. NEWSPAPER ADVERTISING.** Extend the invitation often in your newspaper advertising as business "goes where it is invited." The average customer is timid in applying for credit. Break down this barrier by constant reminders that the customer is welcomed in the credit office.

**11. NEW HOME OWNERS.** Obtain lists of new home owners. There will be many new ones in the months ahead. Home owners who buy on the installment plan will desire to purchase as much merchandise as possible from one place, thus avoiding pyramiding monthly installment obligations and duplication of down payments. The firm that is first to solicit this business will have a good chance of selling the new home owner the bulk of the merchandise he needs.

**12. LETTERS TO INACTIVE ACCOUNTS.** Some firms have a systematic plan for following up inactive accounts. These businesses have profited greatly by an aggressive follow-up plan. Not only will such a plan aid in reviving an account, but it also enables the firm to check the quality of service it is rendering in cases where a customer has a grievance against the firm. Letters, tele-

phone calls and personal calls have all been successfully employed in this endeavor.

**13. ADD-ON SALES.** (Installment.) Installment accounts which are nearly paid out should be flagged so that the customer may be contacted and encouraged to add-on additional merchandise before his contract expires. This procedure has resulted in increased volume for many firms. If the customer pays in person at the office, the suggestion may be made then, or appropriate letters may be mailed to such customers prior to contract expiration.

**14. SIGNS IN STORE AND DISPLAY WINDOWS.** The nearer to the point-of-sale the invitation is, the more productive it will be. Don't stop with invitations by letter and newspaper. Follow-up with appropriate cards in certain departments, and in display windows.

**15. CLUB ROSTERS.** Members of civic organizations are generally considered among the higher type individuals who are leaders in the community. This group of prospective credit customers should be contacted by letter and invited to apply for a charge account. Lists of names and addresses are usually available through the club secretary.

**16. TAX LISTS.** Many stores have obtained good credit accounts by soliciting business from persons who render property for taxation within the county and trade territory. These individuals are excellent prospects for charge accounts involving many types of permanent installations and



Newcomers to the community are good prospects for developing charge accounts.



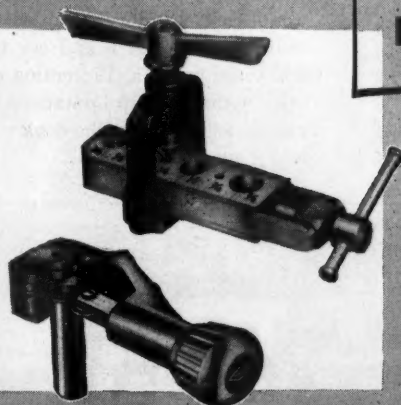
# FOR *Safety* IN EVERY INSTALLATION DEPEND ON THE QUALITY LINE



## IMPERIAL L-P Gas Fittings

*... for tight connections every time*

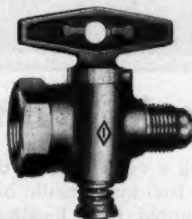
Accurately machined threads and seats — adequate wall thicknesses—flats for good wrench hold—consistent rigid inspection are a few of the Imperial quality extras that really count when you want to be sure of tight connections in every tubing job. Depend on Imperial's broad line of LP-Gas Fittings . . . they carry the Diamond "I" — your assurance of the very finest in tube fittings.



## IMPERIAL Tubing Tools

*... their quality speeds your work*

There are Imperial Tools for cutting, flaring, bending, reaming, swedging. They are way out in front for easier, faster and better work. **No. 500-F** Rol-Air Flaring Tool rolls flares in the air and then automatically burnishes them to a high polish to produce the finest flares you have ever seen. Flares 3/16", 1/4", 5/16", 3/8", 1/2" and 5/8" O.D. tubing. **No. 274-F** Hi-Duty Tube Cutter features free-wheeling ball-bearing action and enclosed feed mechanism. Integral reamer. Roller type with flare cut-off groove. For 1/8" to 1" O.D. tubing.



## IMPERIAL Shut-Off Valves

*... for assurance of dependable installations*

It's good practice to install a good shut-off valve for each appliance. Imperial offers a quality line of plug-type valves . . . carefully ground to prevent leakage and to assure a positive shut-off. Available in a variety of sizes.

**Catalog No. 621** describes **IMPERIAL LP-GAS Fittings, Tube Working Tools, Brass Pipe Fittings and Shut-off Valves**. Ask for your copy.

**THE IMPERIAL BRASS MFG. CO., 1210 W. Harrison St., Chicago 7, Illinois**  
In Canada: 334 Lauder Avenue, Toronto, Ontario

# IMPERIAL

**TUBE FITTINGS • SHUT-OFF VALVES**  
**TOOLS for cutting, flaring, bending and swedging**



items for improvements to their property.

**17. TEACHERS' ROSTERS.** Each year nearly every school and college publishes a roster of its teaching personnel. To this group of prospective credit customers, letters should be written inviting them to the store and welcoming them to the credit office.

**18. WRAPPING COUNTER BOOKLET.** At the time of a cash sale, insert a neatly prepared booklet in customer's package. A portion of this booklet should be devoted to the advantages of having a charge account with your firm; and a credit application form, which can easily be detached and mailed back to the credit office, should be included.

**19. DRIVER SOLICITATIONS.** Train drivers to watch for new customers. Many good-paying accounts can be added through recommendations of your drivers.

**20. MATCHBOOK COVERS.** Advertising your own organization, your services, and an invitation to come by and look over your place of business may help you to get more customers.

**21. MOTION PICTURE THEATERS.** Insert in your screen advertising the value of having a charge account with your firm and the invitation to apply for an account at your store.

**22. RADIO OR TV SOLICITATION.** Refer to the convenience of having a charge account or how certain items may be purchased on a credit basis.

**23. TELEPHONE SOLICITATION.** Names of prospective customers secured through "utilities", neighbors, relatives, or friends, may prove to be a source of new customers.

**24. BILLBOARDS.** Some firms are now using billboards along the highways and main streets to solicit new accounts. Either the complete billboard or a portion of the space may be used to let the buying public know that you extend credit privileges.

**25. EXCHANGE GOOD CREDIT CUSTOMERS' NAMES.** This is a scheme wherein different types of businesses exchange names of good paying customers.

**26. HOUSE-TO-HOUSE SOLICITATION.** In some cases, full-time individuals are employed to "knock

on doors" and secure credit information for the purpose of opening a new account. Some firms use regular employees to solicit applications when these employees have time for this activity.

In promoting credit sales the use of credit letters is essential in certain situations. Here are two sample credit letters that have been "tried and tested" and have proved their effectiveness. The first is a letter to an inactive account:

Dear Mrs. Doe:

A satisfactory credit account like yours is never closed. At times it becomes inactive, as yours is just now; but the account is always there, ready for your use without the formality of reopening.

Our varied and attractive stocks of appliances for this season are now available for your inspection. Won't you please come by and let us show you what we have to offer?

We cordially invite you to reopen your account with our promise that everything possible will be done to make your trading here enjoyable.

It will be a real pleasure to see your account active again.

Sincerely yours,

Another type of letter which is

good to use is a letter of welcome to the newcomer:

Dear Mr. and Mrs. Doe:

Welcome to .....! We are glad you have decided to make this city your home, and we want to extend to you every courtesy within our power.

We feel sure you will enjoy the convenience of a credit account at Blank Butane Company and for that reason we have taken the liberty of opening an account in your name. When you have a convenient moment, won't you pay us a visit? You will want to inspect our complete stocks of refrigerators, stoves, and general appliances.

Perhaps there is some special service we can do to assist you in getting settled in your new home. It will be a pleasure to serve you and we hope you will come in soon. You will find a cordial welcome awaiting you here.

Sincerely yours,

Yes, every butane dealer should establish credit policies suited to his individual operation and try to follow these policies. Promoting credit sales within certain limitations is advisable and will help the dealer maintain a good sales volume.



## Rolling Snack Bar Cooks With LPG

Terry's Lunch, a rolling snack bar which serves a large number of small industrial plants in the Monterey Park and East Los Angeles area by means of a specially equipped Chevrolet, is literally cooking with L. P. gas.

The set-up includes a coffee urn and a stainless steel warming closet which were originally fueled from a trailer cylinder carried inside the panel delivery body. The Los Angeles fire marshal's inspector objected to this arrangement, and insisted that on

such a vehicle using the city streets the fuel tank should be permanently mounted in a location outside the body. Terry compromised by installing a vehicle type tank in place of the gasoline tank at the rear of the chassis, and converting his engine to operate on L. P. gas, using Century carburetion.

The engine now operates from the liquid valve, the heating equipment is supplied from the vapor valve, and the fire marshal, the customers, and Terry, are all happy.

**TOP PERFORMANCE...**  
*Proved on some of the LPG*  
**Industry's Best Tank Trucks**

# HANNAY HOSE REEL

**with Explosion-Proof Electric Motor**



**A**ctual service on the tank trucks of many of the nation's leading LPG distributors has proved that the Hannay Hose Reel functions . . . Economically . . . Smoothly . . . SAFELY! It reduces hazards, lengthens hose life tremendously, speeds up deliveries, eliminates mess and annoyance. The Hannay Hose Reel with Explosion-Proof Electric Motor does a REAL job in all seasons . . . in all kinds of weather!

## CHECK THESE FEATURES

- Developed in collaboration with major LPG producers and leading tank manufacturers.
- Has especially designed explosion-proof, heavy duty motor, Underwriters approved.
- Can be connected through conduit for sealed, safe installation.
- Explosion-proof push button control.
- No gears, no clutch.
- Ball bearing CHIKSAN swing joint . . . does not carry weight of reel.
- Rolled edges on disc. No scuffing, no damage to hose.
- Backed by the Hannay 20-year reputation of satisfaction to YOU, the user!



The above photos show the new, custom-built tank truck of ACME Butane & Appliances, Fresno, California. No effort has been spared to provide the most modern, efficient equipment for LPG delivery including a Hannay Hose Reel with Explosion-Proof Electric Motor. Acme says, "We are well pleased with the performance of the Hannay Hose Reel".

**ASK YOUR  
 EQUIPMENT JOBBER  
 or write us for information.**

© 1953, C. B. H. & S., Inc.

*Look for this...*



**First Name in HOSE REELS... HANNAY**





## ASSOCIATION NEWS

### Arkansas Dealers Support Poultry Association

The Arkansas Butane Gas Dealers Association has become the fourth member of the Arkansas Poultry Association's "Hundred Buck or Better" Club. The first three paying members, each subscribing \$100 for memberships, were banks at Springdale and Huntsville, Ark.

The poultry association was organized last year with growers, hatcherymen, feed dealers, processors, equipment dealers, bankers, and other related business enterprises as members. The butane dealers are lending active sponsorship and support to the poultry group's broad program through their membership and local activities. Among these will be a series of merchandising schools to be held at Little Rock, Pine Bluff, Hot Springs, Fort Smith and Fayetteville to study better methods of merchandising poultry. The schools will be held through cooperation of the National Poultry and Egg Board, national merchandising association for the poultry industry.

### S. R. Harvey Heads Kentucky LPGA

Directors of the Kentucky LPGA recently elected R. S. Harvey, Davis and Harvey, South Shore, president of the organization. He will succeed Melvin Gayer, Warsaw, who has accepted a position with the Philco Corp.

The Kentucky LPGA holds its 6th annual convention July 26-28 at the Seelbach Hotel, Louisville. According to Charles L. Shaffer, general convention chairman, special arrangements have been completed for

the attendance of senior and post-graduate students of the University of Kentucky's Home Economics Department. This is part of the association's overall educational program in bringing the story of LPG to future potential users.

### Seven-Man Gas Board Named for Oklahoma

A bill has been signed into Oklahoma law creating a new liquefied petroleum gas board, composed of seven members to promulgate, administer and enforce rules and regulations governing LPG. Shortly after signing the new bill, Governor Murray appointed W. J. Marshall as state administrator. Mr. Marshall formerly held the post of state fire marshal and as such was ex-officio LPG administrator for the state.

The new law provides for an administrator at a salary of \$7,500 a year, a chief deputy administrator at a salary of \$6,000 a year, two deputy administrators at \$5,000 per year, and two inspectors at salaries not to exceed \$4,000 per year.

Under the new law the board must be composed of members with previous experience in the LPG industry. Each member receives \$15 per day and expenses while in session.

Confirmation of seven members appointed to the newly formed Oklahoma liquefied petroleum gas board by Gov. Johnston Murray was voted by the Oklahoma senate May 26.

The L. P. gas board members are: D. H. Binkley, Oklahoma City; E. V. Kiker, Altus; O. Vern Brooks, Sapulpa; Charles L. Monroe, Perry; Armel E. Richardson, Nowata, and J. Paul Franks, Bokchito.

### Maryland Holds Annual Meeting

The Liquefied Petroleum Gas Association of Maryland held its fifth annual meeting April 21 at the Elks Club in Baltimore, Md. The meeting was well attended by members from the 23 counties and associate members from various companies manufacturing gas appliances.

The morning session opened with registration, followed by the election of officers for the ensuing year. Officers elected were: President, Atlee Wampler, Town and Country Gas Co., Westminster; vice president, H. G. Trueman, Calco Gas Co., St. Leonard; secretary, William H. Vester, Independent Gas Co., Baltimore, and treasurer, Ernest Johnson, Johnson Gas Co., Belair. Five new directors were also elected.

Events of the afternoon included the usual speaking session with interesting talks made on civilian defense and the future use of L. P. gas for motor fuel in the east. A film was shown depicting good salesmanship in promoting sales of L. P. gas appliances, followed by a question and answer panel.

The program committee of the association had arranged a most enjoyable evening for the members and their wives consisting of a friendship hour and dinner, followed by a very entertaining floor show.

### Association Membership Hits New High of 1702

Adding 179 new members in one year, LPGA now has a roster of 1,702 names—a new, all-time high record. A. C. Ferrell, A. C. Ferrell Butane Gas Co., Atchison, Kans., chairman of the Membership Committee, re-

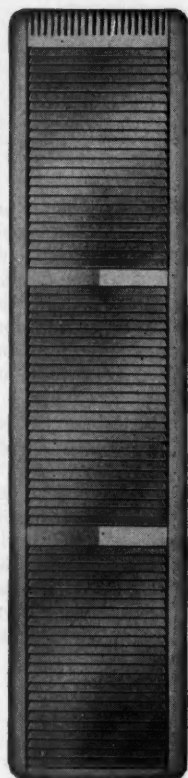
The Finest Gas FLOOR FURNACE OF

Today!

EMPIRE



SILENT AS A KITTEN  
WITH AN EXTRA SET  
OF FOOT PADS



GAS RECESSED  
WALL UNIT



GAS FLOOR FURNACE

Only EMPIRE offers you a completely  
finished Gas Floor Furnace . . . Engi-  
neered to eliminate all the complaints  
you have experienced in the past.

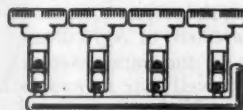
NO  
BOOM!

NO  
BANG!

NO  
TICK!



THE FAMOUS



Gas  
BURNERS



IT'S COOL!  
IT'S COOL!



GAS COOL CABINET  
RADIANT CIRCULATOR  
HEATER



*Thriftmatic*

**EMPIRE**



STOVE COMPANY

BELLEVILLE, ILLINOIS

WORLD'S LARGEST MANUFACTURER OF Gas FLOOR FURNACES

ported at the annual convention. Of this total, 1,387 are classified as active, 85 as associate, 206 as individual, 20 as honorary and four as distinguished life members.

## Full-Time Secretary For East Canadian Section

Major development of LPGA's East Canadian District meeting recently held at Montreal, Que., was the adoption of a resolution providing for the payment of full dues by members in that area into the association treasury and the employment of a full-time secretary. The action was taken following a review of the various services of LPGA by R. H. Mahnke, Manager, District Organization, Chicago.

Speakers at the convention included L. Vaughan, Underwriters Laboratories of Canada; E. A. Jamison, Gulf Oil Corp., Pittsburgh, Pa.; R. H. Engstrom, The Bastian-Blessing Co., Chicago; A. J. Strain, Ruud Manufacturing Co., Toronto; J. McQueen, Superior Propane, Ltd., Toronto; Ross Roberts, Pyrofax Gas Co., New York, N. Y., and D. C. Ferguson, National Propane, Hamilton. Mr. Mahnke presented the sound-slide film, "New Ways to Sell Modern Gas Ranges," produced by the National Committee for LP-Gas Promotion, Chicago.

More than 100 industry men and women attended the meeting. E. W. Sanderson, section chairman, presided.

## NFPA Names C. F. Jones Gas Field Engineer

Appointment of Clark F. Jones as gas field engineer has been announced by the National Fire Protection Association. He will work on a program co-sponsored by LPGA to promote safety and the nationwide use of NFPA safety standards. A graduate of Rensselaer Polytechnical Institute, Mr. Jones has a broad background of experience in the fire protection field.

## NGSMA Board Meets In Texas

M. A. Ellsworth, The Fluor Corp., Ltd., Los Angeles, was elected president of the Natural Gasoline Supply Men's Association at the recent board of directors meeting in Houston.

Other officers for the 1953-1954 operating year are: C. C. Clover, Westcott and Greis, Inc., Tulsa, first vice president; H. M. Anderson, Tellep-



Speaker's table at traditional president's dinner at Gas Appliance Manufacturers Association 18th annual meeting included, left to right: Frank C. Smith, president, American Gas Association and Houston Natural Gas Co.; Sheldon Coleman, newly elected president of GAMA and president of The Coleman Co., Inc.; Louis Ruthenburg, GAMA past president and chairman of Servel, Inc.; H. Carl Wolf, managing director, AGA; W. F. Rockwell, Jr., president, Rockwell Manufacturing Co., and newly elected second vice president of GAMA; and John A. Robertshaw, president, Robertshaw-Fulton Controls Co.

sen Construction Co., Houston, second vice president; William F. Lowe, Tulsa, secretary; M. W. Conn, Phillips Petroleum Co., Bartlesville, treasurer; Mrs. Toni Coman, Tulsa, assistant treasurer.

## Jack Criswell Named AAI Executive Head

Jack F. Criswell, a member of the National Cotton Council's production and marketing staff, was recently named executive vice president of the Agricultural Ammonia Institute at Memphis, Tenn., headquarters of the Institute. The office became effective May 1.

Mr. Criswell has a broad agricultural background, with a degree in agricultural administration from Texas A & M College and many years experience in the field. He was associated with the Texas Agricultural Experiment Station, the North Carolina Agricultural Extension Service, the Bureau of Agricultural Economics, and the Production and Marketing Administration in the U. S. Department of Agriculture.

At the same meeting when Mr. Criswell was named to his new office, the Institute board of directors named St. Louis as the site of the Institute's third annual convention in November.

## New Ammonia Associations Formed In Two Districts

The "Great Plains Agricultural Ammonia Association" has been organized to cover a nine-state territory, which includes Missouri, Kansas, Oklahoma, Nebraska, North and South Dakota, Minnesota, Iowa and Colorado.

The organization, created to disseminate information on the response

of crops to agricultural ammonia and on equipment and methods of applying the ammonia, has as a goal the encouragement of safety and efficiency in handling and the promotion of research. It will also act as representative of the anhydrous ammonia industry in pending legislation and governmental affairs.

Another ammonia association formed recently is the "Ohio Agricultural Ammonia Association," organized by distributors of Ohio. Officers elected to head the new group are: Charles Wood, Union Service Corp., Columbus, president; Jim Barrows, Columbiana Boiler Co., Columbiana, vice president; and Wayne Rigg, Tri-State Nitrogen Co., Stryker, secretary-treasurer.

## Three-Day Service School Held In Louisiana

The third Southern L. P. Gas Service School drew 73 men to the three-day short course recently held at Louisiana State University, Baton Rouge, La. Attending students came from Louisiana, Mississippi and South Carolina.

Speakers and lecturers for the course included: Mel Trotter, newly elected president, LPGA; J. C. Cheney, Central Louisiana Gas Corp., Pineville, La.; Charles Corken, Corken's, Inc., Oklahoma City; M. A. Ennis, training director, National Committee for LP-Gas Promotion; Nelson A. Hauer, Louisiana State University; K. E. Jones, director, LP-Gas Commission of Louisiana; William Johnson, Harper-Wyman Co., Chicago; Jack Larrabee, Warren Petroleum Co., Mobile; J. G. Lee, Dean, College of Agriculture, LSU; M. B. Gault, Robertshaw-Fulton Controls, Youngwood, Pa.; A. H. Menuet, Skelgas, Kansas City; Chris F. Neely, engineer, LPGA; Pat Patterson, Gen-



# Leads the industry in low-cost comfort

LP-GAS

## Coleman®

# Wall Heater

**Models 30,000 to 55,000 BTU input—heat 2 to 5 rooms**

Easy to sell—because easy to install! No basement needed—no excavating, no air ducts with these compact heaters that take no living space. Beautifully styled, ideal for small construction and slab-floor homes. Single and dual wall models to heat one or more rooms. Multiple installations for zone heating. Engineered to save LP-Gas fuel with these great PLUS features you can sell. . . .

### NEW ECONOMIZER GRILLE PUTS MORE HEAT INTO ROOM

A register that fits in wall above heater prevents heat waste up chimney, helps cut fuel costs.

### NEW DIRECTIONAIR BLOWER INCREASES WARM FLOOR COMFORT

Attach any time to any model—no cutting, no installation problem. It pulls room air from ceiling and blends with freshly heated air—puts the blended warm air down at floor level. 3-speed Blower is adjustable. Automatic temperature controls optional.

### NEW REAR GRILLE (not shown) TAKES CHILL OFF ADJOINING ROOM

Puts about 20% of heat into other room. Gives single-wall model dual-wall convenience. Standard on some models.

**Send This Coupon for Complete Information**

THE COLEMAN COMPANY, INC.

Dept. BP-551, Wichita 1, Kansas

Please send complete information on the sensational new line of Coleman Wall Heaters.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Comfort costs so little with a

**Coleman**

America's leader in home heating

EQUIPMENT APPROVED BY AMERICAN GAS ASSOCIATION

eral Gas Corp., Baton Rouge; Fred A. Rives, Consolidated Gas Co., Atlanta; R. H. Mahnke, and F. J. Robertson.

## Utah LPGA Meets

More than 75 members of the Utah LPGA attended the annual meeting June 8-9 at Salt Lake City, and elected the following new officers: Woody Searle, Searle's Gas & Appliance, Vernal, president; E. C. Provonsha, Eastern Utah Gas Co., Moab, vice president; and Don R. Bolton, Salt Lake City, secretary-treasurer.

New directors elected were: L. M. Haines, Inland Gas Co., Salt Lake, retiring president; Charles Rodman, The Lang Co., Salt Lake City; and M. W. Rector, Modern Gas Co., Spanish Ford. Other directors to continue: J. V. Caughran and Fred LaFrenz, both of Cedar City.

Distinguished guests at the convention included: F. N. Mabey, immediate past president, LPGA, Denver; Ernest Fannin, national director, LPGA, Phoenix; and Orson Wright, state director, LPGA, Salt Lake.

## Sheldon Coleman New GAMA Head



Sheldon Coleman

Sheldon Coleman of Wichita, Kan., was elected president of the Gas Appliance Manufacturers Association at the group's 18th annual meeting held at White Sulphur Springs, W. Va.

Mr. Coleman, president of the Coleman Co., Inc., succeeds James F. Donnelly, vice president in charge of sales of Servel, Inc. of Evansville, Ind.

Other officers elected by the more than 400 delegates from all over the country included:

T. T. Arden, executive vice president of Grayson Controls Division, Robertshaw-Fulton Controls Co., Lynwood, Calif., GAMA first vice president; W. F. Rockwell, Jr. of Rockwell Manufacturing Co., Pittsburgh, second vice president, and Lyle C. Harvey, president and general manager of Affiliated Gas Equipment, Inc., Cleveland, re-elected treasurer.

The new officers will assume their duties next October at a board of directors meeting.

The board of directors voted that GAMA would not sponsor its traditional exhibition in Atlantic City, or at any other location, in connection with the 1954 convention of the American Gas Association.

## LPGA Sectional Officers Elected At Chicago

Chairmen and secretaries of the various sections of the Liquefied Petroleum Gas Association were elected at the recent LPGA convention in Chicago, it is announced by Bob Borden, director of LP-Gas Information Service. Named to the posts are:

### Appliance Manufacturers

George H. McFadden, Ohio Foundry and Manufacturing Co., Steubenville, chairman. Frank Henke, Harper-Wyman Co., Chicago, secretary.

### Equipment Manufacturers

Charles M. Corken, Corken's, Inc., Oklahoma City, chairman. Cecil E.

Squibb, Squibb-Taylor, Inc., Dallas, secretary.

### International Section

Al Alice, Delta Tank Manufacturing Co., New Orleans, chairman. Ross H. Dean, Pressed Steel Tank Co., Milwaukee, secretary.

### Marketers Section

A. H. Cote, Suburban Propane Gas Corp., Whippany, N. J., chairman.

### Producers Section

Paul Shannon, Standard Oil Co. of California, San Francisco, chairman. E. Jamison, Gulf Oil Corp., Pittsburgh, secretary.

### Tank Fabricators Section

Herbert A. Buehler, Buehler Tank and Welding Works, Los Angeles, chairman. John Tullis, J. H. Beaird Co., Inc., Shreveport, secretary.

### Utilities Section

P. A. Ray, Metrogas, Inc., Chicago, chairman. John Knox Smith, Metrogas, Inc., Chicago, secretary.



## CALENDAR

*All associations are invited to send in dates of their forthcoming meetings for this calendar.*

## JULY

July 19-21—Tennessee LPGA, Andrew Jackson hotel, Nashville

July 26-28—Kentucky LPGA, Annual convention. Seelbach hotel, Louisville.

## AUGUST

Aug. 2—L. P. Gas Management Short Course. Georgia Institute of Technology, Atlanta.

Aug. 5—New York State L. P. Gas Association. Summer Meeting, Syracuse Yacht Club, Syracuse.

Aug. 30-Sept. 1—Alabama L. P. Gas Dealers Association. Montgomery.

## SEPTEMBER

Sept. 9-12—5th Eastern LPG Service School. University of Bridgeport, Bridgeport, Conn.

Sept. 13-15—New Mexico L. P. Gas Association. State meeting. Hilton Hotel, Albuquerque.

Sept. 14-15—Virginia L. P. Gas Association. Annual Convention. Hotel Chamberlain, Old Point Comfort.

Sept. 14-17—Texas Butane Dealers Association Management Institute Training Program. Lubbock.

Sept. 21-22—Iowa L. P. Gas Association. Fall Meeting, Savery Hotel, Des Moines.

Sept. 22—Pennsylvania L. P. Gas Association. Annual meeting. Penn Harris Hotel, Harrisburg.

Sept. 26-27—Wisconsin LPGA. Fall meeting. Northern Hotel & Spa, Three Lakes.

## OCTOBER

Oct. 11-17—Oil Progress Week.

## 1954

## APRIL

April 5-7—Nebraska Liquefied Petroleum Gas Dealers Association. Annual convention and trade show. Fontenelle Hotel, Omaha.

April 24—Liquid Gas Dealers Association of California. Annual Meeting, Palace Hotel, San Francisco.

## MAY

May 9-12—LPGA annual convention and trade show. Conrad Hilton hotel, Chicago.

# SELL *Stiglitz* FEATURES FOR { Profits in your pocket Customer satisfaction

## *Stiglitz* Sun-Aire { AUTOMATIC TUMBLE-ACTION CLOTHES DRYERS

### Specifications

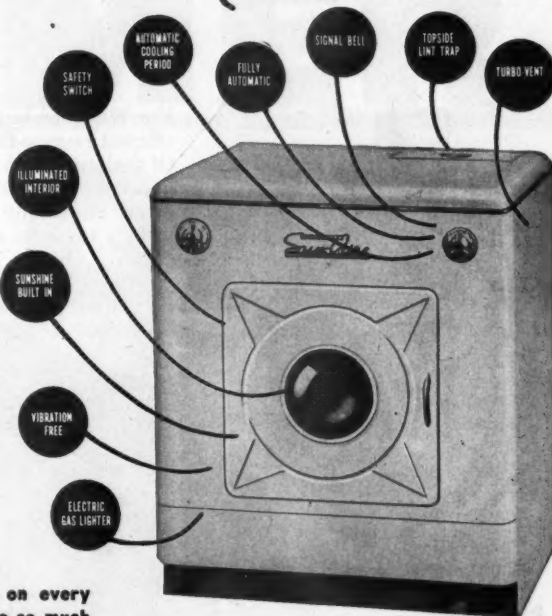
CABINET . . 20 Gauge Steel  
DRUM AND INSIDE PARTS . . 16-18 Gauge Steel  
PAINT . . Rust-proof zinc phosphate coating. Epon  
rosin (epichlorohydrin bisphenol resin) is painted in-  
side and out, and baked at 400° temperature, to  
give a durable, sparkling white finish. Bulkhead and  
drum painted in gray epon rosin, and baked at 400°  
temperature, to give a durable gray finish.  
VOLTAGE . . 110 volt, 60 cycle.  
MOTOR . . 1/3 H.P. with built-in centrifugal switch.  
DRUM . . 44 R.P.M.  
CAPACITY . . 9 pounds, dry.  
BURNER . . 20,000 BTU's.  
ELECTRIC MATCH . . Requires no lighting of pilot.  
Turn timer dial, cycle starts automatically.  
SUN LAMP . . Sun-Aire germicidal lamp.  
VISUAL LAMP . . 20 watt, heavy duty.

### Controls

THERMOSTAT-TEMPERATURE SETTINGS . . Lo (140°),  
Med (180°), and Hi (215°). High limit safety thermostat.  
TIMER . . One hour. Equipped with signal bell.

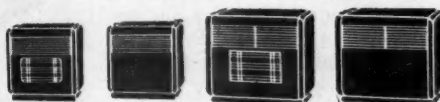
### Dimensions and Shipping Wts.

MEASUREMENTS . . 25" deep, 30" wide, 36" high.  
GAS LINE . . 2" from floor to center. 7" from right  
of center.  
EXHAUST . . 32" from floor to center. 7" from right  
to center. 3" diameter.  
DOOR . . Swings to the left—full opening door for  
easy loading from either side.  
SHIPPING WEIGHT . . 210 pounds.



**LIST—\$289.95. DEALERS!** You can make 46-2/3% on every Sun-Aire you sell. On what other line can you realize so much on your investment? Remember, too, you can average \$12.00 per year on gas sales for this appliance.

## *Stiglitz* WARM-AIRE GAS SPACE HEATERS



**All LP Gas Installations demand 100% Safety Shut-off Valve or Unitrol for fully automatic temperature and safety control of all gases.**

### SUPERLINER MODELS

Model No.	BTU Input	Height	Width	Depth Including Diverter	Floor to Center of Flue	Approx. Ship. Wgt.	List
370	70,000	30 1/2"	35"	23 1/2"	22"	147 lbs.	\$132.25
355	55,000	30 1/2"	30"	23 1/2"	22"	131 lbs.	113.50
340	40,000	30 1/2"	30"	19"	22"	111 lbs.	98.50
330	30,000	22 1/2"	26 1/2"	19"	15 1/2"	83 lbs.	80.75
270	70,000	30 1/2"	35"	23 1/2"	22"	141 lbs.	\$110.25
255	55,000	30 1/2"	30"	23 1/2"	22"	123 lbs.	91.50
240	40,000	30 1/2"	30"	19"	22"	108 lbs.	76.50
230	30,000	22 1/2"	26 1/2"	19"	15 1/2"	75 lbs.	58.75

R  
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### STREAMLINER MODELS

Model No.	BTU Input	Height	Width	Depth Including Diverter	Floor to Center of Flue	Approx. Ship. Wgt.	List
570	70,000	30 1/2"	33"	23 1/2"	20"	135 lbs.	\$122.00
555	55,000	30 1/2"	28"	23 1/2"	20"	120 lbs.	107.00
540	40,000	30 1/2"	28"	18"	20"	98 lbs.	93.50
530	30,000	22"	23 1/2"	18"	15"	60 lbs.	75.75
470	70,000	30 1/2"	33"	23 1/2"	20"	125 lbs.	\$100.00
455	55,000	30 1/2"	28"	23 1/2"	20"	110 lbs.	85.00
440	40,000	30 1/2"	28"	18"	20"	90 lbs.	71.50
430	30,000	22"	23 1/2"	18"	15"	50 lbs.	53.75

100% Shut Off Safety Valve, List \$18.00

Unitrol Safety Valve and Temperature Control, List \$28.00

PRICED RIGHT • DISCOUNT RIGHT • MODERN DESIGN • COOPERATIVE ADVERTISING PLAN

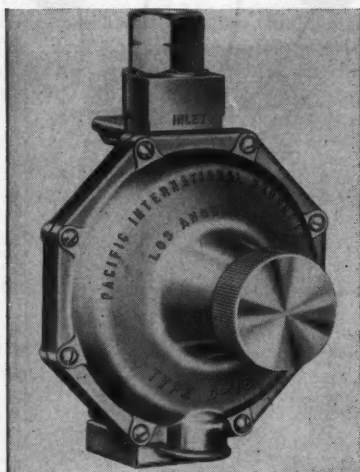
If you are not now handling both the Warm-Aire and the Sun-Aire lines, you are overlooking profit opportunities. Write today . . .

**THE STIGLITZ CORPORATION**  
2007 Portland Ave., Louisville 3, Ky.



## Products and Trade Publications

To secure further information on products or new publications, fill out the coupon and mail, indicating by number the items desired.



### 1. Regulator

Newest addition to the line of butane-propane equipment manufactured by Pacific International Products, Inc., is this Model D-1600, which has a capacity of approximately 400 cu. ft. per hour with a 100 lb. per sq. in. inlet pressure, (over 750,000 Btu). Delivery pressure is 11-in. water column. Inlet connection is P.O.L. or female pipe. Outlet connection ½-in. female pipe.

The regulator is constructed of heavy duty cast aluminum and painted black to help absorb heat and reduce freeze-ups. It is engineered for all types of installations including 1000-gal. bulk systems, and carries U. L. approval. Complete specifications can be secured from the manufacturer.

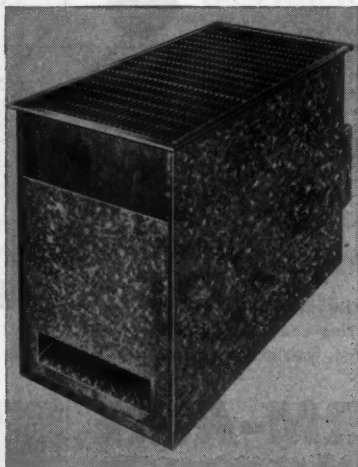
Pacific International Products, Inc.

### 2. Floor Furnaces

Four new gas floor furnaces have been added to the line of Magic Chef home heating appliances and will be exhibited at the summer Furniture Market.

The units range in size from 35,000 to 77,500 Btu and feature exclusive

Fire-Weld combustion chamber with efficient reverse-flow heat extraction. Of shallow design for easy operation, installation and service, the units are cased in heavily galvanized metal jackets to resist rust and deterioration.



Tested and approved for safety, the units are available for use with all gases, and automatic controls are optional.

Magic Chef, Inc.

### 3. Incinerator

Cole Hot Blast Manufacturing Co. recently announced a new Cole automatic gas-fired home model incinerator in production and scheduled for early distribution.

The new unit incorporates the new-



### READERS' SERVICE COUPON

Just fill in this coupon for Products information and copies of new publications, and mail to

BUTANE-PROPANE NEWS, 198 S. Alvarado St., Los Angeles 57, Calif.

7/53 Fill in numbers of items in which you are interested.

No. .... No. .... No. .... No. ....  
No. .... No. .... No. .... No. ....

NAME AND TITLE.....

FIRM'S NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

THE NEW SERVEL...BEST WAY TO...

# INCREASE SUMMER GAS LOAD!



*Makes Ice Cubes Without Trays...*  
and puts 'em in a basket-  
**AUTOMATICALLY**

## Servel

**AUTOMATIC  
ICE-MAKER  
REFRIGERATORS**

The name Servel means GAS to millions! And today millions are talking about Servel—the miracle refrigerator that makes ice cubes without trays—automatically. People are crowding appliance showrooms everywhere to watch in wonder the industry's most dramatic refrigerator demonstration. Servel has created sales excitement never before known in refrigerator selling.

And what's more...Servel with its automatic ice making feature is important in building year 'round gas load... especially during the summer...when a Servel actually increases household gas consumption.

**SERVEL** The name to watch for great advances in  
**REFRIGERATION and AIR CONDITIONING**

Servel Inc., Evansville 20, Indiana  
In Canada, Servel (Canada) Ltd., 548 King St. W., Toronto, Ontario



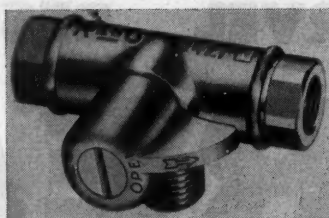
Model #1139

### **SERVEL'S PROOF OF SUPERIORITY CAMPAIGN is Underway!**

Tie in with the promotion designed to really move refrigerators for you! Call your Servel distributor today... for genuine refrigerator sales action!

est, exclusive Cole patent of air-jet combustion with a rust-proof, clog-proof and burn-proof refractory tile lining. The air-jets are cast in the lining itself, and placed at various levels of the burning chamber and slanted down into the chamber. These jets supply an abundance of heated oxygen for complete combustion of refuse at every level without smoke or odor. And this Cole unit will burn anything that is combustible—food, however wet; shoes; bones; corn-cobs, etc.

*Cole Hot Blast Manufacturing Co.*



#### 4. Manifold

Simplicity of design and ease of operation are emphasized in the new

RegO No. 1421 manual throw-over manifold announced by The Bastian-Blessing Co. Of compact design (2½ in. wide) with special long-wearing composition seats which guarantee leakproof operation, the new manifolds are available either separately or as a part of portable cylinder outfits of the No. 5724 and 5725 series. Inlet connections are ¼ in. inverted flare and the outlet connection is ¼ in. male TPT.

Positive cam action opens one side of the system and simultaneously shuts off the other as the hand lever is rotated. The arrow on the hand lever shows which side is in use. The new item is listed by Underwriters' Laboratories, Inc.

*The Bastian-Blessing Co.*

**Quick  
Acting**  
charging line  
valve



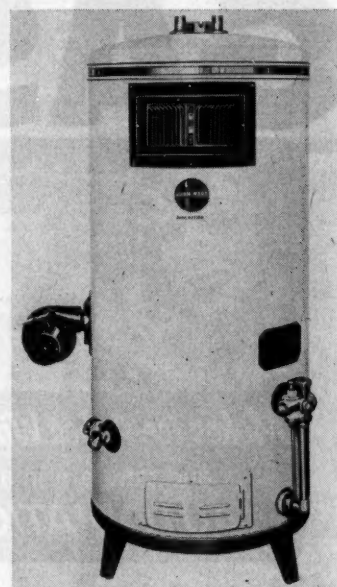
Here's another outstanding Superior safety feature—the trip-lever action of the new quick-acting shut-off valve. The novel diaphragm valve construction assures you of immediate opening and shut-off—completely safe from leaks. Quick-coupler with neoprene nose seat for quick assembly and disassembly. Two-ply, heavy-duty neoprene charging hose and re-usable stems and ferrules on hose ends are other quality features on this Superior equipment.

You can rely on Superior's Symbol of Safety



**Superior valve & fittings company**

1509 West Liberty Avenue • Pittsburgh 26, Pennsylvania



#### 5. Dual Action Heater

A "two-in-one" gas heater, the Dual-Action Heater of the John Wood Manufacturing Co. supplies hot water while circulating air from a thermostatically controlled blower.

Doubly convenient for such installations as milk houses, medium-sized unheated kitchens, small offices and basements, the space-saving combination heater is installed and flued like a regular automatic water heater. Simple electric connections are made to the blower and the room thermostat. After the room thermostat is set for desired temperature, the blower forces warm air through the grill to maintain the desired temperature.

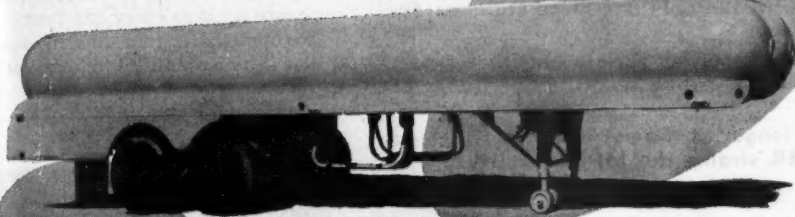
With a blower capacity of 50 cu. ft. per minute, the Dual-Action Heater, when its hot water temperature is 150° F, brings a 45° F air temperature



# 2 STEPS

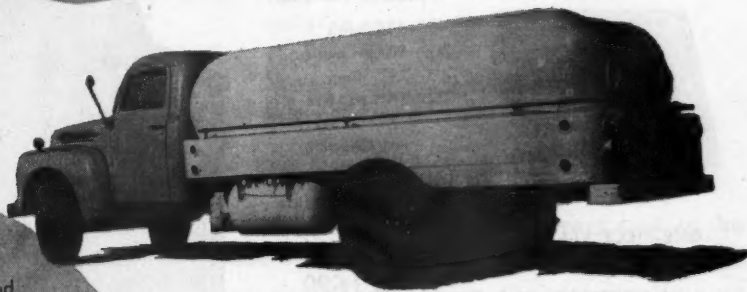
## TO GREATER PROFITS

1. Make your long hauls in LMC Tank Trailers. Smart appearance, superior safety factor, and higher payloads combine to assure you of Low Mileage Cost. LMC Tank Trailers are available in twin or triple barrel models with capacities from 3000 to 6000 gallons.



LMC TANK TRAILER

2. Make your customer deliveries in the new LMC Home Delivery Unit. Greater protection, and a smarter appearance, accentuated by the exclusive chrome hand-rail, will build customer confidence. Available in capacities from 1400 to 2200 gallons.



LMC HOME DELIVERY UNIT



*Buy on the LMC budget plan!*

WRITE FOR ADDITIONAL INFORMATION, PRICES AND PAYLOADS

**LUBBOCK MACHINE & SUPPLY CO**



P. O. BOX 1138

PHONE 3-4631

LUBBOCK, TEXAS

rise, thus providing abundant hot water plus clean, warm air.  
John Wood Manufacturing Co.

## 6. Gas Meter

A new aluminum version of its standard No. 1 gas meter has been introduced by Rockwell Manufacturing Co. Weighing only 22 lbs. as compared with the standard meter, which weighs 45, the new meter is designed

to offer increased ease in handling and setting, reduction in shipping costs and greater resistance to weather and shock.

With a pressure cast aluminum body which offers added protection against the weather, the new meter has a rated capacity of 5 psi and a maximum capacity of 275 cu. ft. per hour, ample to handle any house heating job. It is available with offset swivels for 10 light meter bar installations.

Rockwell Manufacturing Co.

## 7. Tank Trailer

A new tank trailer, designed by Edward A. Lillich, is claimed to be the answer to LPG dealers' moving



problems. Constructed with tandem wheels to help eliminate bounce and shock, the trailer runs smoothly and holds the road. Four cross bars, easily removable when setting the tank, are used to carry the tank.

Accommodating four tons, the tank trailer is being built by the designer, Mr. Lillich.

Everett A. Lillich

# INSTALL FAT MIZER ONCE THAT'S ALL!

Pot leaks always occur at your busiest time. Save yourself this troublesome breakdown and fire hazard by installing FAT MIZER equipped with the only one-piece stainless fry pot available.

Guaranteed 5 years, this stainless pot will outlast all other types. Made from one piece of metal, there are no seams, welds, tubes or crevices as on other fry pots.

Frying fat stays clean and lasts longer as the pot is so easy to clean and the patented "FAT" MIZER strains the fat as you fry.

Write for full information.



ONE-PIECE STAINLESS  
FRY POT

No more leaks. No tubes — saves 10 lbs. each filling. Round corners for easier cleaning.

### MODEL FM-14SP

34" high  
17½" wide  
29" deep  
14" sq. Pot  
28-40 lbs.  
Fat Capacity

Durable, welded  
rod twin baskets  
standard equip-  
ment.

**\$216.90**

With Stainless  
One-Piece Pot

Add \$14.00 for LP Gas

Maximum Delivery  
Charge \$9.00



## 8. Hand Torch

A new hand torch, the "Mark 11 Flamemaster," applicable to such varied needs as tinsmithing, cutting, lead burning, light welding, and used by jewelers, dental technicians and plumbers, is a new Chance product made in England and distributed exclusively in America by Tonea Hamilton and Associates, of Los Angeles.

The Flamemaster, with specially regulated bypass, leak-proof valves and adjustable pilot-screw, burns natural gas, butane or propane with compressed air or oxygen, and manufactured gas. It burns hydrogen where necessary or needed.

Tonea Hamilton & Associates

## 9. Clothes Dryer

The Bendix gas clothes dryer is fully automatic and features the exclusive Bendix Pow-R-Vent system for exhausting heat and moisture out-

11" Sq. Pot—15 lbs. Fat  
30,000 B.T.U.

14" Sq. 1-pc. Pot  
32½ Fat—50,000 B.T.U.

## "Fat Mizer"

### FRYERS

All The Name Implies

LOW FIRST COST

LOW UPKEEP

FM-II

FM-11F

FM-14

Counter Unit	Cabinet Unit	Steel Pot	\$177.00
\$136.95	\$157.50	Stainless	
Leg Stand		Pot	\$216.90
\$12.00			(Maximum delivery charge \$9.00)

FAT MIZER DIVISION — SUPER-CHEF MANUFACTURING CO.  
Factory — 12211 Hodges St., Rt. 3, Box 28 Houston, Texas

THEY LOOK TO Q.C.F. FOR

**EXTRA QUALITY...**

**EXTRA SAFETY**



As you can see, there's an Q.C.F. tank installation near you (each pin represents a recent Q.C.F. storage tank installation). Why not inspect it for both quality and safety and see for yourself.

... FROM A GIANT 118,000 gallon multi-tank installation at Mt. Pleasant, Iowa to a 1,500 gallon job at Woodensburg, Maryland... you'll find that operators depend on Q.C.F. craftsmanship to deliver the extra safety they need to take full advantage of the choicest and most convenient locations.

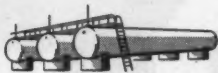
Q.C.F. quality grows from the skill of technicians, researchers and craftsmen plus constant inspection

such as the x-ray check of every inch of the welded steam and stress-relief of every tank.

By consistent application of exceptionally high standards, Q.C.F. helps you eliminate unnecessary risks. Get the facts from your Q.C.F. Representative. American Car and Foundry Company, New York · Chicago · St. Louis · Cleveland · Washington Philadelphia · San Francisco.

and the Q.C.F. LINE for

**TANK CARS · STORAGE TANKS · TRUCK TANKS · SAFETY VALVES**



**Q.C.F.**

*Quality you can trust*



doors. Lint is captured in an easily cleaned lint trap.

Designed to use natural, mixed manufactured or bottled gas, the burner has a rating of 19,000 Btu consumption per hour including pilot. It has a pressure regulator insuring constant heat input. The drying temperature is a constant 150°, completely safe for all fabrics.

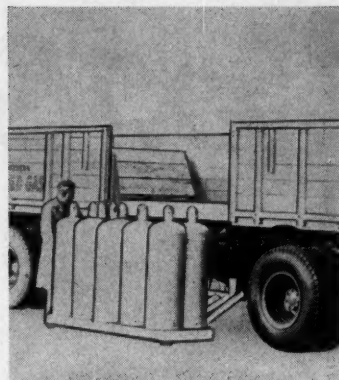
The exterior finish is a high lustre white enamel. The dryer is 31 inches wide, 36 inches high and 25 inches deep.

A simple \$1 adapter kit that changes a natural gas clothes dryer



to an LPG model has recently been introduced by Bendix. The new adapter, which is little more than a change of orifices, is approved by the American Gas Association.

*Bendix Home Appliances*



#### 10. Hydraulic Lift Gate

Anthony Co., pioneers in the hydraulic Lift Gate field, have installed a Lift Gate on each side of a semi-trailer. The center loading facilitates handling of filled and empty LPG cylinders from either end of the body.

Such an operation as illustrated originates at the plant or central distributing point, and the transport truck makes a 200-mile run, delivering to various distribution and dealer points where unloading was a problem and a hazard.

*Anthony Co.*



#### 11. Fire Extinguisher

A new one-man engine containing fire-killing "Alfco" dry chemical has been introduced by the American-LaFrance Foamite Corp., manufacturers of an extensive line of fire protection equipment.

The Alfco Model 150, for use in large scale B and C fires beyond the scope of hand portable extinguishers, discharges 150 lbs. of quick-smothering Alfco dry chemical. Only 480 lbs. in weight, fully charged, the Model 150 is easily wheeled, maneuvered and operated by one man.

*American-LaFrance Foamite Corp.*

# Enterprise

Features that  
make the  
Enterprise  
your **BEST-  
SELLING  
GAS RANGE!**

**WAIST-HIGH  
BROILER**



SHOW any woman how the Enterprise waist-high broiler means no more stooping...no more burned fingers...no more spilled food. Just open the door, and the broiler springs forth automatically at waist level.

SHOW her the one-piece broiler body...with heavy pan and smokeless grid...finished in long-lasting porcelain...easy to take out and clean...operates smoothly on ball bearings...SHOW her how this waist-high broiler allows her to bake and broil at the same time with maximum efficiency.

TO SHOW these down-to-earth features is to sell an Enterprise. And Enterprise makes a range for every need (30 gas, 14 electric models)... each priced to beat competition.

Model 362385 CP-Clock Controlled. Waist-high broiler... giant oven... additional low broiler.



WRITE TODAY for free catalogue

Serving a value-conscious America for nearly 100 Years.

**PHILLIPS & BUTTORFF MANUFACTURING COMPANY**  
NASHVILLE, TENNESSEE

# COLUMBIAN

## BUTANE-PROPANE

Transport Trucks • Semi-Trailers • Storage Tanks



(Above) 4,000-gal. (4,848 water gal.) Double-Barreled L.P. Transport.—LFT Mack Truck

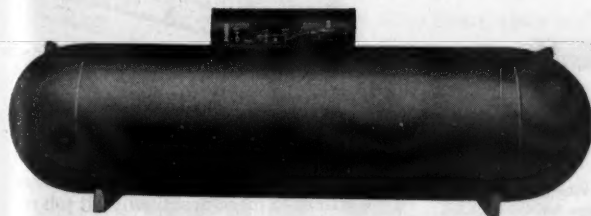
### EXPERTLY DESIGNED — QUALITY BUILT



• (Above) 1,463-Gal. (1,774 water gal.) Twin Tank Truck.

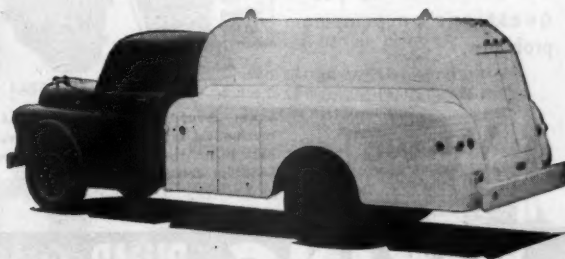
One of the first in the field, Columbian has won recognized leadership in the building of Butane-Propane transportation, delivery and storage equipment. With 60 years of tank building experience behind us and a reputation for advanced design and engineering excellence, Columbian offers you today's "smart buy" in modern Butane-Propane Transport Trucks and Semi-Trailers—manufactured in any capacity you need—engineered to meet limitations of your state regulations.

**Columbian Underground and Above-Ground Storage Tanks —**  
are available in all sizes. All are A.S.M.E. tanks.



**WRITE NOW** for complete information about Columbian Butane-Propane transportation, delivery and storage equipment.

• (Below) Columbian Full Skirted LP Delivery Truck. Pump mounted with direct driven power take-off. Outlet control valves may be furnished in curb side or rear cabinet. Print-o-meter also in rear cabinet.



**COLUMBIAN STEEL TANK CO., P.O. Box 4048-C, Kansas City, Mo.**

## 12. Cylinder Loader

A new "Safe Way" semi-automatic cylinder loader has been designed by Frank Bonner's Sales and Service and introduced to bottled gas distributors as a way to speed up and lighten the job of loading empty or full cylinders on the truck.

It is claimed that the new cylinder loader saves up to 30% of delivery time by eliminating a major portion of physical effort, eliminating the



necessity of tail gates and the slipping of cylinders during the loading

process. Acting as a truck ladder and cylinder dolly anchor, the loader enables five cylinders to be loaded at a time without getting on the truck.

Of custom-welded construction, the loader is at present in limited production.

*Frank Bonner's Sales and Service*

## 13. LPG Fire Pot and Torch

Introduction of a new and complete line of L. P. gas fire pots and torches has been announced by the Turner Brass Works.

Designed for double-duty service as either bench-type or tank-type units, the fire pots include heavy corrosion-resistant cast aluminum base, steel supporting posts and cast iron burner with wide flame range and high-

speed melting efficiency. Operation is at full tank pressure without requirement of regulator.

Tanks, with exclusive Turner construction features, are available in 20-lb. and 11-lb. sizes and have full-diameter, full-curved foot ring for greater stability and longer surface wear.



Gas Fire Pot



The new Turner LPG torch comes with three interchangeable all-brass burners to meet practically all job requirements. Not requiring pressure regulators they are easy-lighting and have removable orifice blocks. Flame adjustment is by one-hand valve control.

Catalog is available upon request.  
*Turner Brass Works*

**We Have The Answers  
TO YOUR  
PUMPING  
PROBLEMS**



Every day the Viking sales and engineering staffs answer questions on pumping for a long list of satisfied customers.

Many are companies with problems very similar to yours.

These questions can be answered correctly because Viking people draw from over 40 years' successful pumping experience and recommend from the fastest-growing, most complete line of rotary pumps on the market. Over 600 standard models plus endless special designs. There's no compromise with Viking Pumps. We invite your questions on pumping problems.

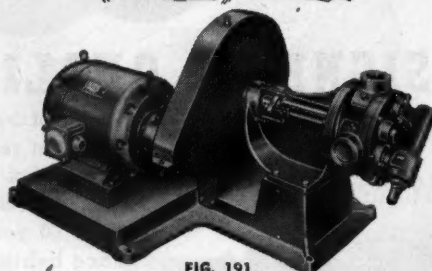


FIG. 191



FIG. 190

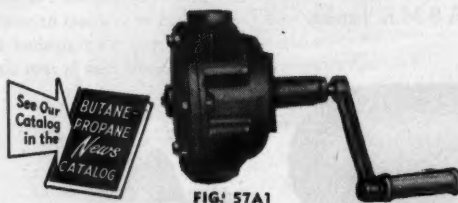


FIG. 57A1

Learn about the complete line of Viking mechanical seal equipped LP-gas pumps for bulk plant, truck mounting and hand drive. Send for folders 2303B & SP312B.



**VIKING**

**PUMP COMPANY**  
CEDAR FALLS, IOWA





# Once is not enough!

The need for blood is greater than ever, not only for men wounded in combat, but here at home . . . to cure disease, to meet accidents and disasters, and to prepare for civil defense.

Our quota can **ONLY** be met, if those who give *keep on* giving . . . regularly!

You **CAN** give more than once . . . as often as every three months with complete personal safety. The more often you give the more often you save a life. For every pint of blood you give goes to someone who needs it desperately.

Remember . . . once is **NOT** enough. Give blood again and again! Call your Red Cross, Armed Forces or Community Blood Donor Center for an appointment to give blood today.

# GIVE BLOOD

...give it again and again

## BUSINESS EXECUTIVES! CHECK THESE QUESTIONS

If you can answer "yes" to most of them, you—and your company—are doing a needed job for the National Blood Program.

- ☐ HAVE YOU GIVEN YOUR EMPLOYEES TIME OFF TO MAKE BLOOD DONATIONS?
- ☐ HAS YOUR COMPANY GIVEN ANY RECOGNITION TO DONORS?
- ☐ DO YOU HAVE A BLOOD DONOR HONOR ROLL IN YOUR COMPANY?
- ☐ HAVE YOU ARRANGED TO HAVE A BLOOD-MOBILE MAKE REGULAR VISITS?
- ☐ HAS YOUR MANAGEMENT ENDORSED THE LOCAL BLOOD DONOR PROGRAM?
- ☐ HAVE YOU INFORMED EMPLOYEES OF YOUR COMPANY'S PLAN OF CO-OPERATION?
- ☐ WAS THIS INFORMATION GIVEN THROUGH PLAN BULLETIN OR HOUSE MAGAZINE?
- ☐ HAVE YOU CONDUCTED A DONOR PLEDGE CAMPAIGN IN YOUR COMPANY?
- ☐ HAVE YOU SET UP A LIST OF VOLUNTEERS SO THAT EFFICIENT PLANS CAN BE MADE FOR SCHEDULING DONORS?

Remember, as long as a single pint of blood may mean the difference between life and death for any American . . . the need for blood is urgent!



**NATIONAL BLOOD PROGRAM**

#### 14. Birch Gas Logs

These new logs are so "birch-like" that it's almost impossible to tell them from genuine wood logs. They add to the appearance of any fire-place and are practical because they produce excellent heat, even when gas is turned medium or low.

The unit is AGA approved for use with all gases; 24,000 Btu.; dimensions: 24 in. wide, 11 in. deep and 17 in. high.

Well constructed to last for years,



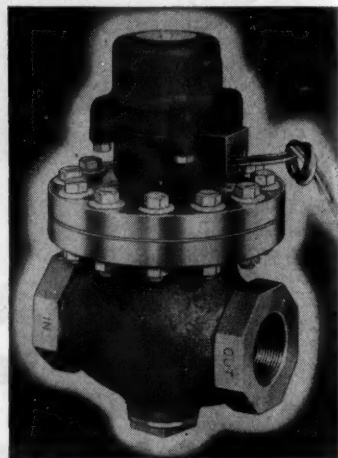
the base assembly is of heavy bar steel, finished in black semi-matte

enamel. Burner is cast iron, with valve of solid brass.

*Armstrong Products Corp.*

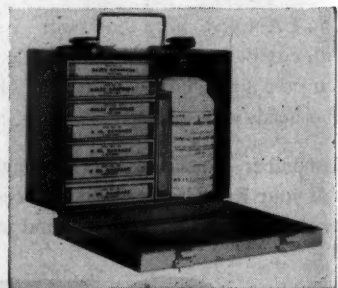
#### 15. Solenoid Electric Valve

Atkomatic solenoid electric valves for high pressure lines are available in sizes from 1/2 inch to 1 1/2 inches, and for pressures to 3000 psi. Designed with only three moving parts and no external linkage, normal valve maintenance is further reduced by the packless construction incorporated in the design.



Atkomatic solenoid electric high pressure valves can be used for any application where the media is not harmful to bronze or stainless steel. Coil housings for various conditions are offered in dust-tight, water-tight or explosion-proof housing for use in hazardous atmospheres.

*Atkomatic Valve Co.*



#### 16. First Aid Kit

Davis first aid burn kits now include an Aerosol automatic spray dispenser containing Americaine, the pain-killing burn treatment. This was announced by Frank Davis, Jr., president of The Davis Emergency Equipment Co., Inc. (Continued, page 111)



**\*LP-Gas**

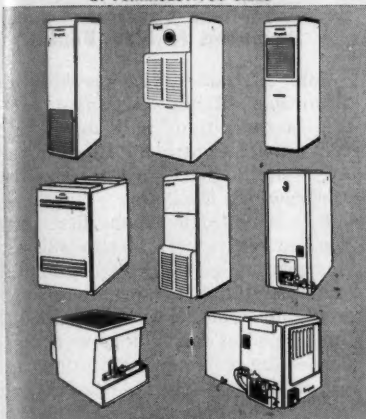
Carter produces high quality Propane and Butane for both industrial and domestic uses. Our service and products are unexcelled. You can depend on Carter.

**Wholesale Only**

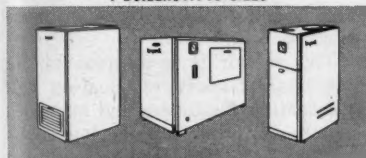
**THE CARTER OIL COMPANY**  
T U L S A , O K L A H O M A  
P. O. Box 801 Phone 2-6101

**THE MOST  
COMPLETE LINE OF  
HOME CONDITIONING  
EQUIPMENT IN  
THE INDUSTRY**

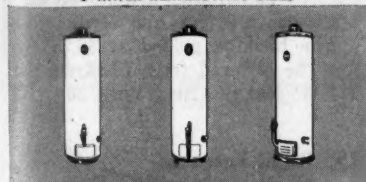
**21 FURNACES...83 SIZES**



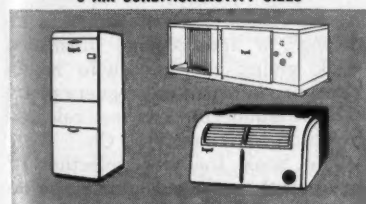
**4 BOILERS...45 SIZES**



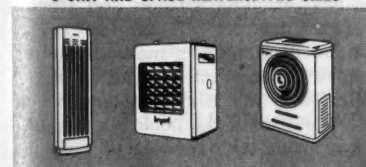
**5 WATER HEATERS...15 SIZES**



**3 AIR CONDITIONERS...7 SIZES**



**6 UNIT AND SPACE HEATERS...25 SIZES**



**bryant®**

HEATING • AIR CONDITIONING • WATER HEATING

The company has also introduced a smaller kit with complete equipment for instant first aid treatment of burns.

In addition to the spray dispenser, the standard large kit contains Americaine in the form of a greaseless, water soluble ointment. Americaine in both forms is antiseptic, greaseless, excludes air, and kills pain almost instantly because of its principal active ingredient—20% dissolved Benzocaine, widely used in medicine and dentistry as a rapid local anesthetic.

Carrying cases are of heavy gauge steel, with baked-on enamel, and retractable hangers for wall mounting. *Davis Emergency Equipment Co., Inc.*

### Product Information

#### 17. New Folder Describes Warm Air Conditioner

An attractive and comprehensive folder describing its new horizontal warm air conditioner has been issued by the Janitrol Domestic-Commercial Space Heating Division of Surface Combustion Corp.

This new two-color folder, which describes the Janitrol "Spacemaker" unit, is full of practical information for the heating contractor or dealer, and shows how horizontal units of this type may be installed in various types of locations, such as garages, attics and basements. In addition to the application data, detailed engineering information on the components and other specification material, such as performance and dimensions, is included.

The folder is available on letterhead request to all heating engineers, contractors and dealers. *Surface Combustion Corp.*

#### 18. Weldit Catalog

A new illustrated catalog in color is offered free to industry and the trades by Weldit, Inc., manufacturers of welding torches and cutting equipment.

The new Weldit 28-page catalog illustrates the complete Weldit line of products, such as torches, both standard and Weldimatic, for acetylene, oxygen and liquid petroleum gas, plumber's furnaces, weed burning torches, heating torches, tips, burners and other welding equipment.

*Weldit, Inc.*

#### 19. Compressor Bulletin

A new bulletin describing Ingersoll-Rand's compressors for the transfer of liquefied gas such as LPG and anhydrous ammonia has just been released.

The two-color bulletin describes the construction of the unit by means of a sectional view. All important operational and construction features are fully captioned.

One page of the bulletin is devoted to a typical installation problem, with a view of an unloading plant depicting the four major steps of the unloading cycle. Practical unloading problems are worked out, and graphs indicating capacity of the various machines under different pressure conditions are also shown in the bulletin.

*Ingersoll-Rand Co.*

#### 20. Booklet On Henry Valves

A series of newly designed valves developed by the Henry Valve Co. for use in agricultural fertilization and in industrial applications where ammonia and other gases, non-corrosive to steel, are used, is described in a catalog issued by that company. Copy is available upon request.

*Henry Valve Co.*

#### 21. Literature Describes Gas-Fired Pot Furnaces

A new illustrated catalog covering gas-fired pot furnaces has just been released by Eclipse Fuel & Engineering Co., Rockford, Ill.

Complete specifications, dimensions and other pertinent data covering pot furnace operation in hardening and drawing lead, as well as heat treating salts, are presented in the new catalog.

*Eclipse Fuel & Engineering Co.*

#### 22. Envelope Enclosure On Pipe Tools

An envelope enclosure explaining an improved principle in pipe cutting is being utilized by Beaver Pipe Tools, Inc. to describe how the Beaver No. 2 and No. 4 Pipe Cutters are constructed.

Illustrated with diagrams and drawings, the folder also includes size and price information. The back page is devoted to Beaver's new Model-D Aluminum Power Drive.

*Beaver Pipe Tools, Inc.*



### 23. Panelray Heating

Literature describing the overhead Panelray commercial heating unit is now available to the gas heating industry, builders, architects, and engineers, it is announced by the Day & Night Division, Affiliated Gas Equipment, Inc.

The new literature, offered by Day & Night, contains detailed specifications of the overhead units, diagrams, photographs, dimensions and engineering data as well as installa-

tion views, case studies, and testimonial letters.

The two overhead Panelray units described in the Day & Night literature are models CR-63 (99 lbs.) and the CR-125 (177 lbs.). Completely vented, with a choice of three control systems—manual, remote, or automatic thermostat—the Day & Night overhead unit heater is fully guaranteed and is approved by AGA.

Among the many features of interest mentioned in the literature are the ability of the overhead Panelray to deliver radiant type heat instantly,

effective heating in drafty locations, absence of fans or blowers (no dust circulation), and unusual installation and operating economies.

*Day & Night Division,  
Affiliated Gas Equipment, Inc.*

### Newly Published

#### 24. Automatic Controls Discussed In New Book

John E. Haines, vice president of Minneapolis-Honeywell Regulator Co., is the author of a new book, "Automatic Control of Heating and Air Conditioning," just released by McGraw-Hill Book Co.

It is believed to be the first book devoted exclusively to this subject. Designed to give a broad, practical understanding of control devices and how they work, the book explains the control of such things as domestic heating, commercial heating and air conditioning, unit heaters and unit ventilators. A full chapter is devoted to the peculiarities associated with the control of radiant panel heating.

The author is a director of the American Society of Heating and Ventilating Engineers and an active member of other engineering organizations. He also lectures and frequently contributes articles on automatic controls and their applications.

The book is priced at \$6.75, and may be ordered from McGraw-Hill, 327 W. 41st St., New York 36, N. Y.

#### 25. Ruud Releases Home Laundering Book

"All About Modern Home Laundering", a new 80-page illustrated book giving the housewife handy reference information on every phase of home laundering, has been released by Ruud Manufacturing Co.

The book includes selection of equipment, packaged laundry accessories and other commercial products, washing, drying and ironing procedures for all fabrics, recommended laundering methods and recipes, and correct installation of gas, electricity and plumbing services.

A feature of the book is a new and easy sizing table for selection of automatic gas water heaters for use with automatic clothes washers.

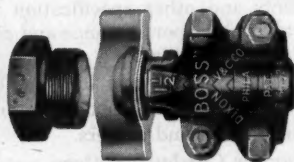
"All About Modern Home Laundering", a non-commercial, non-profit publication, is available to gas companies and gas appliance dealers at 50 cents each when purchasing from one to 12 and 35 cents each for 13 or more.

*Safest Connections  
for L-P Gas Hose!*



## "G J-BOSS"

### GROUND JOINT FEMALE COUPLINGS—STYLE X-34



Unequalled for safe, durable, trouble-free connections on all L-P Gas hose. Ground joint union between stem and spud provides washerless, leakproof seal. Furnished with super-strong "Boss" Offset and Interlocking Clamps. All parts steel or malleable iron, thoroughly rustproofed. Sizes 1/4" to 6", inclusive. Also available in washer type, and with companion "Boss" Male Couplings.

*Stocked by Manufacturers and Distributors of Industrial Rubber Products.*

# DIXON

*Valve & Coupling Co.*

GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO  
BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING CO., LTD., TORONTO  
ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC. QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.



## Who Said L.P.G. Sales Are Tough?

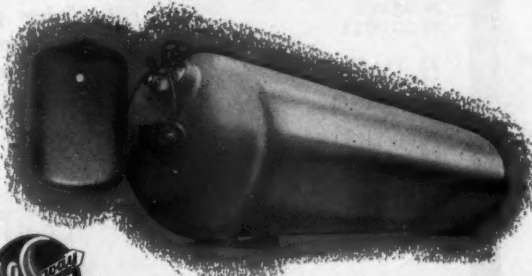
**Not you, if you're an A. O. Smith dealer!** Because the streamlined, guaranteed-in-writing A. O. Smith Liquid Gas System is easy to "sell." It's the system backed by 78 years of A. O. Smith engineering and manufacturing experience.

**A. O. Smith Liquid Gas Systems** provide advantages, combined in no other system, which mean extra earnings for A. O. Smith dealers:

- Direct-to-your-yard delivery
- Written guarantee on every tank
- Exclusive Vapor Dome
- Easy-to-read eye-angle gauges
- Distinctive, streamlined appearance
- Standardized installation
- U-69 and UL approved

**Get all the facts.** Discover how you can establish yourself as an A. O. Smith dealer and how selling A. O. Smith Liquid Gas Systems can increase your profits.

**Write, now, to A. O. Smith Corporation, Dept. B-P-753 Milwaukee 1, Wisconsin.**



# A.O. Smith



C O R P O R A T I O N

## LIQUID GAS SYSTEMS

Atlanta • Chicago 4 • Dallas 2 • Houston 2 • Los Angeles 22 • Denver 2 • Midland 5, Texas • New Orleans 12 • New York 17  
Philadelphia 3 • Pittsburgh 19 • San Francisco 4 • Seattle 1 • Springfield, Mass. • Tulsa 3 • Washington 6, D.C.  
International Division, Milwaukee 1

## 26. Anchor Issues Dealer Aids Bulletin

Anchor Petroleum Co. has issued its second "Dealer Aids" bulletin on L. P. gas, a 10-page, pocket-size booklet of condensed information considered useful to L. P. gas dealers, and are offering it free of charge to dealers in the industry who write for it.

The booklet contains a breakdown of all conceivable uses of L. P. gas aimed at helping dealers discover potential customers, a diagram and out-

line on proper tank car unloading procedures, a table of freight rates, and a complete listing of standard tests and specifications for commercial butane and propane and mixtures as determined by the N.G.A.A.

## 27. Textbook On Internal Combustion Engines Out

A textbook on internal combustion engines by A. R. Rogowski, Associate Professor of Mechanical Engineering, Massachusetts Institute of Technol-

ogy, has just been released by McGraw-Hill Publishing Co.

"Elements of Internal Combustion Engines," arranged for a one semester course of the engineering student, gives a concise, technical insight into the factors and problems involved in safe and efficient operation of various types of internal combustion engines.

Presentation of material is fundamental, with simple application made of thermodynamic and combustion factors as a basis for calculating engine efficiency. Simple compression flow relationships are utilized in carburetion theory. Emphasis is placed on engineering methods for solution of problems.

Appropriately illustrated with photographs and drawings, "Elements of Internal Combustion Engines" is priced at \$5.50.

## Robertshaw-Fulton Introduces New Pilot

Robertshaw-Fulton Controls Co. has just introduced their new non-aerated 2B target pilot, which, according to the manufacturer, has undergone years of testing and development and is considered revolutionary in the controls field.

Some of the features of the target pilot are freedom from lining and clogging, with no ports or burner tube to clog, automatic air control with no air-shutter, and slip-out orifice which is easily removable. Of stainless steel, corrosion-resistant, the target pilot, after rigid testing, is claimed to operate unaffected in the worst possible lint conditions, to maintain its blue flame characteristics long after most burners tested, and to maintain a stable flame on appliance applications with draft conditions in excess of A.G.A. limits.

## Decimal Equivalent Decal Available

Engineers, designers, draftsmen, etc., may secure a convenient time-saving decal showing decimal equivalents in 64ths, just by writing to The Meyercord Co., 5323 W. Lake St., Chicago. The complimentary decal is only 6 in. by 1 1/4 in. and is designed for application to slide rules, T-squares, drawing boards, desk tops and other similar drawing equipment. The figures are easy to read, printed in sharp black and red type on a white background.



# 7 Reasons

## WHY YOU SHOULD CHECK SUNRAY . . .

- ✓ 1 **PROMPT DELIVERY.**
- ✓ 2 **CONVENIENTLY LOCATED PLANTS.**
- ✓ 3 **DEPENDABLE SERVICE.**
- ✓ 4 **TRAINED TECHNICAL PERSONNEL.**
- ✓ 5 **UNIFORM QUALITY PRODUCTS.**
- ✓ 6 **32 YEARS OF PETROLEUM EXPERIENCE.**
- ✓ 7 **FULL LINE OF LPG PRODUCTS.**

Yes, — 7 is a lucky number — but in this business LPG dealers can't depend upon luck alone. That's why SUNRAY can make *your* problems much easier. Prompt delivery service and a dependable source of supply means everything.

SUNRAY has plants that offer a full line of LP-Gases in Arkansas, California, Kansas, Louisiana, Oklahoma and Texas.

WRITE, WIRE OR TELEPHONE

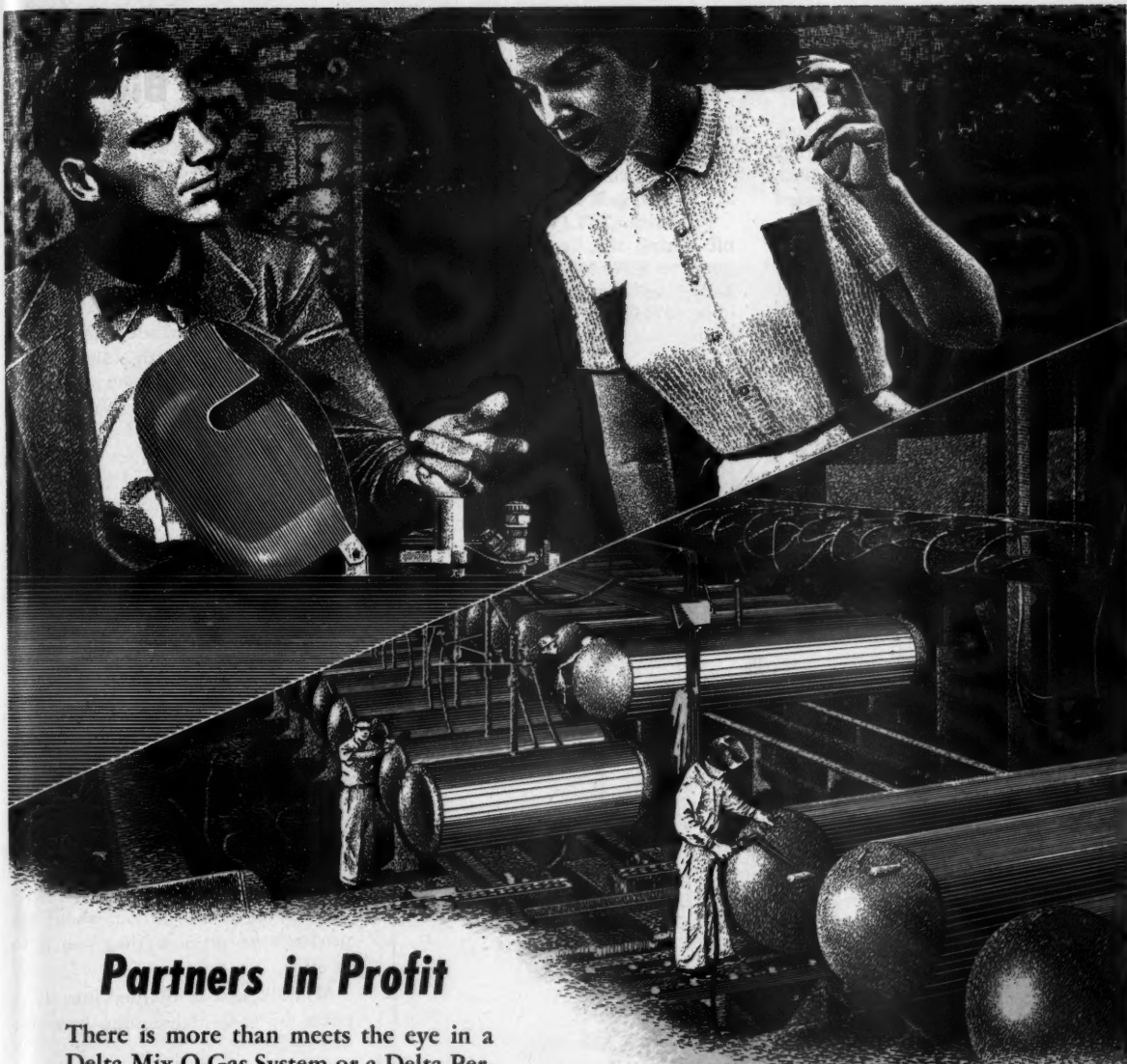
# SUNRAY OIL CORPORATION

General Office • First National Bldg.

5th & BOSTON

TULSA 3, OKLAHOMA

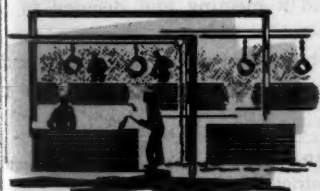
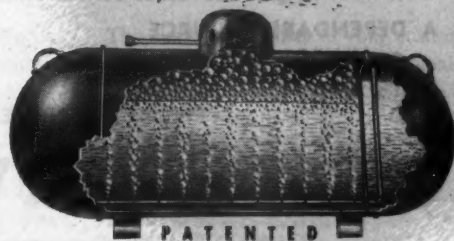




## Partners in Profit

There is more than meets the eye in a Delta Mix-O-Gas System or a Delta Performance Tested System. That is why valuable good will is gained when your service men point out the strength, economy, safety, exclusive features and long service life built into these systems and tanks by Delta craftsmen. The inspectors at Delta who test each phase are the partners behind the scenes who back up your service men in their statements. All along the line, you and Delta work together as real partners in profit.

*For profits . . . let's be partners.*



# DELTA TANK MANUFACTURING CO. INC.

P. O. BOX 1469, BATON ROUGE, LA. • P. O. BOX 1091, MACON, GA. • P. O. BOX 431, JEFFERSONVILLE, IND.  
Export Office: Suite 110, International Trade Mart, New Orleans, U. S. A.  
MANUFACTURERS OF LPG PRESSURE TANKS AND I. C. C. CYLINDERS

## LPG Shows 8.7% Gain Over '52

Total demand for L. P. gas rose 8.7% during the first quarter of 1953 over the comparable period of 1952, according to statistics just released by the Bureau of Mines, Washington, D. C.

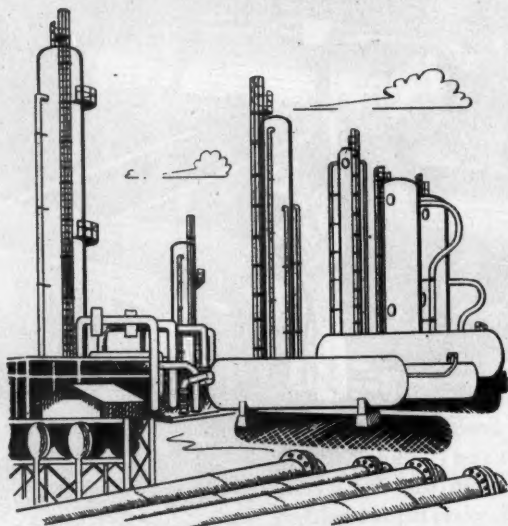
The increase came as a result of gains in both domestic and export use, with exports rising to 695,000 bbls. from the year-ago level of 582,-

000 bbls. Domestic demand rose to 31,311,000 bbls. (1,315,062,000 gals.) from the 1952 level of 28,860,000 (1,212,120,000 gals.).

Production of LPG, meanwhile, fell off during the first quarter of this year to 8,575,000 bbls. (360,150,000 gals.), as compared with 8,905,000 bbls. (374,010,000 gals.) for the same period last year.

## CITIES SERVICE

### LIQUEFIED PETROLEUM GAS



... in L. P. gas also Cities Service means Good Service

- A DEPENDABLE SOURCE
- UNIFORM PRODUCTS
- A CAPABLE SUPPLIER
- TWENTY-FIVE YEARS EXPERIENCE

## CITIES SERVICE OIL CO.

DELAWARE

Bartlesville, Okla.

Chicago, Illinois

OTHER SALES OFFICES

Cleveland • St. Paul • Kansas City • Toronto

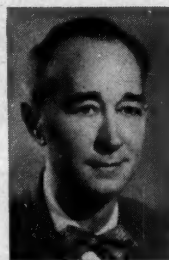


## Advertising With A Big "A"

By L. R. Chandler

General Sales Manager  
Gas-Oil Products, Inc.  
Coral Gables, Florida

I WILL talk about advertising\* and how it ties up with selling points—because advertising and selling are so close together that you can't tell where one stops and the other starts.



L. R. Chandler

In fact, if your advertising doesn't sell, you're not advertising; and if you don't advertise when you sell, you're not selling.

Advertising in itself is simple; it's like checkers. It's so simple that anyone can do it; yet, it's so complex that no one can completely master it. My own definition of advertising is this: advertising is any means of expressing to other people, the right or logic of your opinion, about the products or services that you have to offer.

My talk will be divided into three parts for ease of handling in a limited time.

The first part: Cooperative advertising such as that used in the "Gas Institute of Greater Miami" and how it will expand your advertising dollar.

Second part: Theme advertising.

Third part: How to beat electric competition easily through use of the Big "A".

Let's consider the first part: Cooperative advertising. In the summer of 1950, things were falling apart pretty badly for LPG dealers in the Miami area. So, a group of us had a meeting and decided to see if we could not think up some scheme that would help us sell more gas and gas appliances against the

\*Presented at the LPGA Southeastern District Convention, Atlanta, Ga.

**TIPS ON SELLING FURNACES — REMEMBER...**

# WOMEN ARE NOT SO CONFIDENT

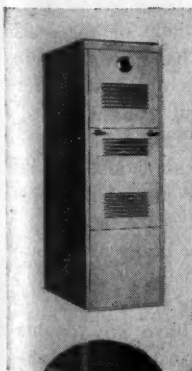


She wants to be reassured before she buys. Words alone may make her balk. But show her written proof that what she's buying is fully backed and she'll have confidence—you'll have a sale.

Rheem helps you in two ways to reassure the lady that a Rheem Furnace is the best for her. First, Rheem has the Fire-Tested story for you to tell—proof that every Rheem Furnace is fully tested, is perfect before it leaves the factory. Second, Rheem backs every Furnace with a full Rheem warranty—a warranty that says what it means and means what it says.

This double assurance to your customers is a double assurance to you, as so many dealers have learned, of bigger sales, more profits when you sell Rheem Furnaces. Start today to sell Rheem and you can sell with confidence.

<b>FREE Booklet Shows Choice of Models!</b>	<b>BP-7</b>
<b>RHEEM MANUFACTURING CO.</b>	
4361 Firestone Blvd., South Gate, Calif.	
Send free, illustrated furnace booklet.	
Name _____	
Address _____	
City _____	State _____



**RHEEM MANUFACTURING COMPANY**

World's Fastest Growing Manufacturer of Warm-Air Heating Equipment



©1953, RHEEM MFG. CO.



very concentrated and successful operation of the local electric utility company.

After several meetings, we organized the "Gas Institute of Greater Miami," which is composed of all the LPG dealers, plus two pipe line companies, which operate in south Florida, in the area known as Greater Miami.

A committee was formed from the cross-section of the group and made the assessments for each company for yearly dues.

After this was done, we then se-

lected an advertising agency and have been meeting every week, or at least twice a month, with the advertising company to build up advertising programs to improve the acceptance of gas and gas appliances.

After almost three years we still have all of our members, and have added new companies which have started in business since we organized. Our advertising program, we think, has been very effective.

We have done a lot of things, in a lot of ways, that most people said we couldn't do.

We have run newspaper campaigns, have created and sponsored radio and television programs, and have put together a display for a Home Show this year. Also we have put out many booklets, pamphlets and other miscellaneous advertising material.

We have sent out information to architects and builders and have organized a liaison committee to operate with local FHA officials, builders, and municipal authorities.

We have enforced safety conditions and regulations within our own group and, in addition to this, we have presented a solid front against our competition—and we've had a lot of fun doing it.

Sure—we're all competitors and we're rough and tough, but we are still banded together to fight our real competition, the electric power company and their dealers.

Why? To make those extra bucks, of course!

And the results speak for themselves! We have been able to improve our acceptance of all gas appliances.

#### Market Is Increased

We have been able, through our advertising campaigns, plus other united efforts, to practically reverse the water heater market, especially on project homes where at one time the power company had approximately eight out of every ten water heaters going electric. Today, the opposite is found: approximately seven gas to three electric. This change is also apparent in the domestic market, but not to such a great extent.

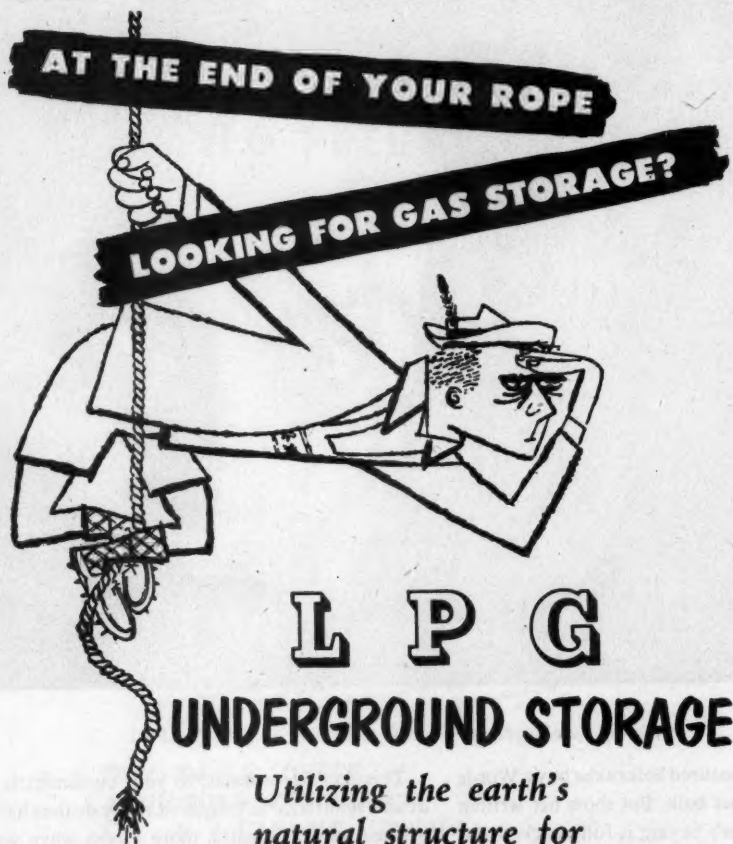
With the kind help of the local FHA officials, we have been able to get gas pipe lines and outlets for water heaters and ranges in all houses which use gas for heating.

We have been able, also, to increase our load per customer by promoting dryers and space heaters.

I could go on for hours about our cooperative advertising program and never say the same thing twice.

If any of you have any doubts about the result, just ask any one of the dealers in our group, and you will find him to be just as enthusiastic about this cooperative advertising as I am.

As nearly as I can estimate it, by



## L P G UNDERGROUND STORAGE

*Utilizing the earth's  
natural structure for  
storage of hydrocarbons. . .*

### Contact—"SMOKY" BILLUE

Pioneer in development of underground storage that is SAFER, CHEAPER and economically sound. If you want more—and better gas storage, write "Smoky" for list of successful installations.



**SECURITY UNDERGROUND  
STORAGE COMPANY**

Phone 2-4067

615 SUNSET DRIVE

WICHITA FALLS, TEXAS

the end of this fiscal year, we will have spent in cooperative advertising, as a group, approximately \$90,000 over the last three years.

We will have increased the gas appliance business in the area of south Florida, over and above what we would have gotten ordinarily, by approximately nine million dollars in sales.

This means sales to builders, to plumbers, direct sales by manufacturers to projects, sales by department stores and appliance companies and gas companies themselves—all sales which were made in the field of gas appliances, regardless of who made them.

This figure of nine million dollars does not include the thousands and thousands of dollars which were spent for tanks, regulators, meters, trucks and all the other things that it takes to serve this load.

This does not include the thousands of extra dollars in revenue which we will get over the coming years.

These figures alone should show you very conclusively that cooperative advertising does pay and can pay everyone who tries it.

### Co-op Advertising Needed

Why is cooperative advertising necessary at this time?

Mainly, because we need it now.

Let's not fool ourselves. We have lost the general acceptance we once had for gas to electricity.

Sure, some of the big wheels will give you stories and statistics to say we haven't, but just go into any area and count for yourself. It is very easy to see what is going into new construction where people have an even choice between electricity or gas.

Or, pick up any home magazine—"House & Gardens," "House Beautiful," "American Home"—and see how many actual homes are shown with gas or gas equipment, compared with those showing electric ranges and electric equipment. I do not mean ads; I mean the actual homes which are featured.

Or, I'll explain it in another way.

My wife and I have a small farm in Illinois, and every so often I slip in to see that we still have the buildings left—you know, just to check up.

On my last trip, I walked into the farm house, looked over in the corner

# READY NOW!

this great

## NEW L-P LINE

*built for you*

by

## TURNER

- Fire pot designed for double duty service as Bench type or Tank type unit • Heavy cast iron burner — easy lighting; extremely wide range of flames (from idling to 3" diameter by 14" long); *unsurpassed for high-speed melting efficiency*; economical because of idle flame control; replaceable orifice block; burns at full tank pressure (no regulator required); gives full, solid, smooth flame which will not pop or sputter; clean — no grease, soot, smoke • Fuel is chemically stable, non-toxic, non-explosive from concussion; produces no monoxide gas or other noxious fumes • Specially designed heavy-duty tanks (I.C.C. approved) available in 20-lb. and 11-lb. sizes; have full-diameter, full-curved foot ring for greater stability, longer surface wear.



- Torch designed with 3 burners — needle-point, medium, large — to meet practically all job requirements • Burner heads used interchangeably with handle tube assembly • Pistol-grip handle made of molded, heat-resistant, tough and durable rubber; fits the hand; easy to use in any position • All burners may be used *without* pressure regulator; easy starting — can be lighted with spark lighter or match; removable orifice blocks • Valve designed for easy one-hand operation to adjust flame from idle to full open
- All brass construction.

See Your Jobber.

## THE TURNER BRASS WORKS

SYCAMORE ILLINOIS

Since 1871

and found a brand new electric push button range. I jumped back like I was scared and asked, "What in the world is that, an atomic machine of some sort?"

The lady said, "No, that's my new electric range."

I asked, "Will it cook?" and she said, "Frankly, Mr. Chandler, I can't cook on it as well as on the old kerosene range."

I said, "What in the world did you buy it for then?"

"Well," she said, "you know we've been doing pretty well lately, and we

needed a new range, so we thought we'd buy a good one. This is the type all my friends were buying, so that's what we bought."

Price an item? NO! Cooking an item? NO!

Just because Mrs. Jones has one, this woman had to have one, too! Not a practical reason—but a woman's reason!

That brings up a point. This is a woman's market. The man doesn't mean a thing. What the missus says, goes in the house. Our entire future depends on her.

I learned one thing about selling women years ago. It's a good story, but I haven't time to go into the story or how it happened. However, a very smart girl said this to me: "Bill, if you intend to make your way in the world selling, and you're going to sell women: (1) Sell them what they want; or (2) make them want what you sell. If you can't do this, get yourself another job."

There it is—write it down and remember it! I believed her then—I still believe her now, more than ever after 25 years.

Let's analyze this. We certainly can't get another job because we are in this gas business up to our neck and some of us over our neck.

### Why Women Buy

Certainly under no stretch of the imagination can we say that we are selling what women want. They are certainly not lining up in your stores to buy your products.

Then the way is definitely marked for us. We must make women want what we have to sell.

And while I'm on this subject, what are the reasons why women buy?

This was brought out by the "Ad Club Weekly" of St. Louis which published eight reasons why women decide to buy what they buy. Here they are in the order of their importance:

1. Because her husband says she can't have it.
2. Because it makes her look thin.
3. Because it comes from Paris.
4. Her neighbors can't afford it.
5. Nobody's got one.
6. Everybody's got one.
7. It's different.
8. Just plain, ordinary "because."

Well, if this is a woman's market which we must capture, I'd say cooperative advertising would do something that an individual company or dealer cannot do, regardless of how large he may be—something which can't be done by national advertising or promotion because such advertising, by necessity, must be general.

Therefore, this general gain in acceptance must come again from pressure at the local level.

Most all of our advertising is aimed at the woman, bringing out her need for various things and why gas can supply this need better than any other fuel.



The months ahead may be a good time to recuperate from the busy season just past, but they are also a good time to prepare for the busy months to come.

Check your equipment, including pumps. Don't wait until slowdowns or breakdowns occur, but take advantage of the summer season to inspect your pumps and have them repaired at the factory if necessary. The Winter is our busy season also, and while we try to give good service at all times, we shall appreciate your cooperation in preparing early for the Autumn rush.

Write for the latest revision of Instruction Sheet K-2 that tells how you can inspect your Smith Pumps for wear. Also ask for details on our exchange pump plan, which can eliminate loss of time from service at no extra cost or extra freight expense. This is also a good time for expansion or replacement of unsatisfactory plant equipment. Smith offers ten popular pump models from 5 to 150 gallons per minute delivery, for truck and bulk plant service. Write to us for further information.



# SMITH

## PRECISION PRODUCTS COMPANY

1135 MISSION ST., SOUTH PASADENA, CALIF. • PHONE PYRAMID 12293



You can easily see why this type of promotion can't be done by any one company or nationally because we have played, in every case, the "hot button" of our locality.

I mean by "hot button" that particular condition which exists in which we have some big advantage over electricity. What is a "hot button"? Let me explain it this way. Let's take an automatic elevator. On the inside of every elevator there are many little black buttons—first, second, third floors, stop, etc.—and one, a red button, that says "push to start."

Regardless of how much effort you spend on pushing the black buttons, unless you push the red button first, nothing happens. Push it first—and all others will perform according to your wishes.

In every locality there is a "hot button"—some weakness, some flaw in the armour of the electric company—some point where you have a big advantage.

That's the "hot button." That's the place to put all your emphasis in order to make things happen.

#### How It Works

Now, let's look at cooperative advertising from a plain theory angle.

Let's take ten dealers in any locality and say that they all spend an equal amount of money, such as \$1,000 each on advertising each year to capture their portion of a going market of 2000 gas appliances which will be sold over this period of time.

Most of this advertising money will be spent on regular range and water heater mat ads, supplied by the manufacturers of these products.

Now, with everything being equal, each dealer should theoretically get an equal share—or 200 appliances.

Now, say we take the same amount of money, except that each dealer takes \$500 of his \$1,000 and puts this into a cooperative fund with the other nine dealers, making a total of \$5,000 to be spent on cooperative advertising run to the general public and planned to build up the general acceptance of gas and gas appliances.

Each dealer then takes the remaining \$500 of his \$1,000 and spends it as he did before—in advertising his own company and the particular products which he sells.

According to my thinking, here's what would happen:



**Threads 4 sizes of pipe fast with 1 set of dies—and it won't jam!**

## **RIDGID 65R PIPE THREADER**

This popular 65R has saved millions of hours of threading time, and no wonder—its one set of self-contained high-speed dies adjust to 1", 1 1/4", 1 1/2" or 2" pipe size in 10 seconds! Mistake-proof self-centering workholder sets instantly! And lead screw won't jam on workholder, kicks out automatically at standard thread length! You can't match it for fast easy pipe threading—buy it at your Supply House.

**THE RIDGE TOOL COMPANY • ELYRIA, OHIO**



The original 2000 appliances would swell to 4000 appliances.

Each dealer getting his fair share would get 400 instead of 200 appliances, or he would have expanded his advertising dollar from \$1,000 to \$5,500.

Each would then gain the same as if he had spent the extra \$5,000 in building up the acceptance of gas appliances by his own advertising.

Each dollar would have expanded to five-and-one-half times its regular size.

Each \$5 spent on advertising would produce two instead of one appliance sale; or, the advertising percentage cost per appliance would be halved; or, to say it still another way, the dollar advertising value would be doubled.

In summarizing: frankly, that's all we have done in the Gas Institute.

We have pooled our money, expanded our dollar, increased our acceptance—and we have each run our own advertising to capture our individual share of the market.

That's all that is being done in the national effort.

If you believe these figures, or at least concur with the thinking that's behind them, then think a little further.

If each LPG dealer here—or, better still, the entire country—would pay his fair share into the Committee for National Advertising, in order to better pre-sell and pre-condition buyers on a national scale, then the individual advertising dollar would again be expanded when used cooperatively at the local level. It would be expanded again at the retail local level, advertising the dealer's own products and company because he is working to a better product acceptance.

It's that simple; it's that easy.

### National Advertising

We must have national advertising because most all of us unknowingly are influenced when we buy because of pre-conditioning of the mind by having seen a particular item advertised in some nationally recognized media in which we believe.

Don't forget that many buyers will buy only nationally advertised products.

So, we must have more and more national advertising and we must have more and more local advertising. We must have more and more cooperative advertising—all of which is designed to build the acceptance of gas appliances.

Do I think that this is all that is necessary? Do I think organizations like the "Gas Institute" are the complete answer?

No. Absolutely not.

It's going to take lots of training, lots of door bell pushers, lots of display, lots of home shows, lots of direct mail advertising—and then more of the real old-fashioned honest-to-goodness selling.

Do I think that an organization like "Gas Institute" can start in a lot of places?

I say "no" for several reasons.

Geographically, most dealers are too far apart—or they are at the edge of large cities where natural gas has most of the business and where they are still looking down their noses at us.

It is also hard to get men to work together for free, and it's very diffi-

## don't overlook weed burning for LP-Gas summer sales



**Industrial  
LP-Gas  
Can  
Balance  
Your Fuel  
Load**

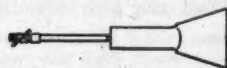
Weed burning is but one of the many industrial uses for LP-Gas. Coming at a season when your domestic sales are low, weed burning operations offer an excellent opportunity to sell your local utilities, municipalities, national parks, forest service, etc., AND to establish your name in these offices as the source for LP-Gas torches, furnaces and fuel. Once you open such accounts, they generally last for years. Remember, one average industrial account is worth six domestic.



### MUTUAL NO. 2 HAND WEED BURNER

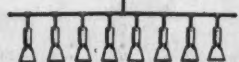
The Mutual Weed Burner is a natural summer load builder. Can be used anywhere LP-Gas is available. One town that has made weed burners standard equipment uses from 10 to 15 100-lb. cylinders each week in summer months.

Light and easy to operate, burner rests on sliding skid to permit flexible operation. Burns weeds at their base. The flame is controlled by a valve at end of tube, and can be varied from 6 to 16 in. Burner will not blow out. Overall length is 72 in. Hoses available with No. 58 (3/4") Nut at both ends or with P.O.L. and No. 58 Nut. Send for Mutual catalog.



**singly...or in groups**

Burner head may be used singly for heavy pre-heating, paint burning, scraping, etc., or may be manifolded in groups for flame cultivation.



cult to get them together at meetings to figure out the proper ads and promotions.

In fact, in most places they would rather sit around and grind their own funny little axes for fighting weapons than to throw their money into a pool which could fashion machine guns and atomic bombs with which to fight our competition.

However, there are a few things that can be done anywhere and which cost nothing extra—yet, still will expand your advertising buck and help everyone in the gas business.

### Cooperative Advertising

Here's a few simple ideas on how this could be done:

Call a meeting of all the LPG dealers in a certain locality that have been doing individual advertising in one or two medias which cover this section.

Agree on a rotation of days for each to run their individual ads so that there is something in the paper or on the radio every day.

In this way, the general public is exposed to some gas advertising each day of each week of the year.

This is the type of repetition that pays big dividends.

Or, agree to run range or water heater campaigns all together and at the same time.

The impetus built up by the same story by all the companies will give momentum to the entire campaign in which all will share equally.

Get together on the "hot button"—and on every ad have a punch line which bears down on that "hot button" point.

Also, put on the border of all ads some agreed slogan or statement like: "It's the COME-BACK That Counts," or "Gas Is Dependable in Any Weather."

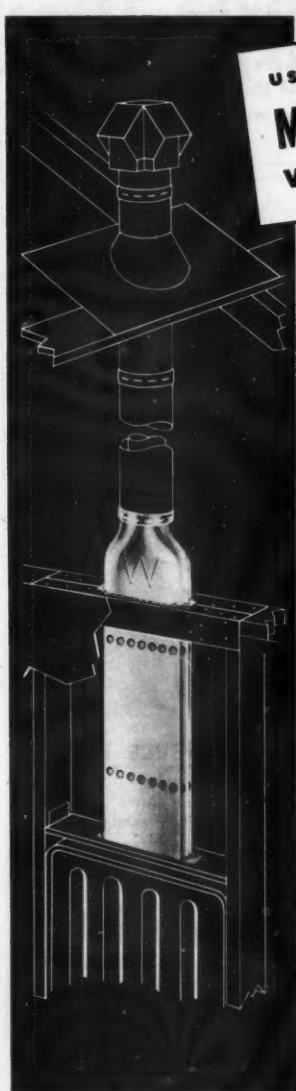
Again this costs nothing extra and the continued repetition will pay off.

Here's a must: agree on the size of an ad to go in all school books or yearbooks in the community.

It costs very little for you to dominate these books of your future customers of the next few years. And the young people won't forget!

You may think that advertising in school yearbooks and papers is lost, but remember: these books and papers are the big things in the lives of those kids today. Those same kids

## be sure wall heater installations comply with new venting requirements



USE

**METALBESTOS**  
WALL-VENT

Listed and approved by Underwriters' Laboratories, Inc. as a Type B-W gas vent for installation with recessed wall heaters.

The American Gas Association now requires that recessed wall heaters be marked specifying the type of vent to be used. In addition, Underwriters' Laboratories has established a new designation, Type B-W, applying to vents specifically approved for use with recessed wall heaters. Compliance with these requirements will insure better, safer venting and help to eliminate customer complaints resulting from faulty installations.

Write for new folder showing approved method of installing wall heater vents for both new and existing construction. No cost or obligation.

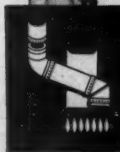
**METALBESTOS WALL-VENT IS  
APPROVED FOR INSTALLATION INSIDE 2" X 4"  
COMBUSTIBLE WALLS**

- No Furring Out Required
- No Extra Insulation Needed

Metalbestos Wall-Vent, the first and leading gas vent specially designed for venting wall heaters, meets all A.G.A. and U.L. requirements. Its insulated double-wall design assures proper venting and protects walls from dangerous overheating. Made of rust-proof aluminum, it resists the corrosive action of vent gases, lasts the lifetime of the house itself.

**Send for free copy of  
VENT INSTALLATION HANDBOOK**

Based on the latest gas venting research, this pocket-size booklet contains complete, up-to-date information on venting practices plus many helpful installation tips. Write today to Dept. M-1252.



**METALBESTOS** DIVISION

WILLIAM WALLACE COMPANY • BELMONT, CALIF.



will be your customers and the big thing in your business lives tomorrow. Just remember—it's your future market.

Now for the subject: "Theme Advertising."

This was discussed by me at Chapel Hill, but I didn't get it over as well as I would have liked. I am convinced that this is a powerful form of advertising, because it instills—by its own make-up—a selling story in the minds of all. It's a scheme for selling an *idea* rather than a *thing*.

You know you just can't sell things. You can only sell ideas. People buy the thing that will fill the bill of the idea presented.

And here is another thought just to kick around: how can you possibly give a discount on ideas when they have no dollar signs?

Every piece of music has a theme or a melody which runs through it.

You are familiar with pageants which have central themes—such as the Rose Bowl and Orange Bowl.

If themes are practical in music,

in operas and in pageants, why wouldn't a central theme pay off in advertising?

Several years ago, I was looking around for some idea for a small pamphlet which we could use in our company to send out on inquiries, to have for mailings, or to give out in general selling—some little pamphlet which would state something about our company, our policy, and what we had to sell—something about the L. P. gas business itself that could still be tied into a selling idea.

### Develop A Good Theme

What could I get that would tie the whole thing together—our advertising and our selling plan?

What would give us a main sales story that could be tied together in one package?

And then I had it.

Why not "Gas in a Package"? It was just screwy enough to arouse a little interest.

So we printed a small pamphlet. On the inside was a little story about our company, something about the appliances we sell, a little about the gas service we have to offer. It was all worked out in skematic drawings so it could be used year after year.

From that point it was a simple step to design an ad, following the same line of thinking—"Gas in a Package"—showing appliances which we sell, along with our service. We run this ad in Miami and in all the towns we serve ever so often.

Then, our next step was a switch—"Service in a Package"—showing the planning that could go into homes, restaurants, cafes, along with the appliances and the gas service.

We used this ad mainly in architects' and builders' magazines. Proofs were made up for give-aways and mailings.

This same idea worked into another ad which we have used in the same manner, adding still a little more about gas service.

This ad has been good from an advertising point—and I'll tell you the advantages and why I think it's good:

1. The ad shows four products instead of one;
2. The ad is large enough to command better placement in the paper—and because of its size, it can't be hidden or buried on a page;



**NEW!**  
**ACCOUNT-BUILDING  
MEDIUM-DUTY  
TORCH**

**RANSOME 81**

This, brand-new RANSOME 81 torch is packed with sales features. Weighs only 1¼ lbs., has well-balanced workman-like "feel" that reduces arm weariness. Flame stays at heat set by operator—high winds won't blow it out. Can be used in any position without danger of fuel spilling. Ideal for tight, awkward spots. Lights instantly without pumping, priming or pouring fuel. Priced 15 to 33⅓% below comparable, competitive torches.

*Real Business Builder* because RANSOME torch users buy LP-Gas year-round, usually in small, premium priced containers...soon become prospects for other industrial and home appliances.

14½" long, tubular steel head  
1½" dia., 45° angle, 1¼ lbs.  
Burns 6 hours on gallon LP-Gas at 10 lbs.

**SELLS TO**  
Plumbers  
Pipe fitters  
Sheet metal workers  
Ranchers  
Asphalt tilers  
Garages  
Foundries

**FOR**  
Melting lead joints  
Sweating large streamline fittings  
Lead wiping  
Melting babbitt  
Light preheating  
Core drying  
Laying and shaping asphalt tile

**TRADE PRICE**  
**\$9.80**  
F.O.B. FACTORY

See for yourself...  
stock the **NEW RANSOME  
81 TORCH NOW!**

**RANSOME COMPANY**

Liquefied Petroleum Gas Division

ROOM A7 • 4030 HOLLIS STREET • EMERYVILLE, CALIF.

*Ransome*

3. It ties in appliances for all needs, with no conflict;

4. It ties in services and type of services;

5. It ties in dependability and experience of the company;

6. It costs the cooperating companies very little for their share, considering the space it commands;

7. It continues to tie our company name to trade marks with four well-known manufacturers, so if the reader is only familiar with one, she would consider the others simply because they are tied together in the same ad;

8. It has another advantage in that once the engraving is produced, proofs can be made up and used for direct mailing to customers, to architects, to builders;

9. It puts the company name in equal or greater prominence than the name of the products;

10. All can be seen at a glance, but not too much;

11. All of the ads are aimed at that all-powerful woman whose okay we must have.

#### Selling An Idea

Now, how can we use this idea for selling against electric competition? Here's one good example:

A middle-aged woman comes into our store. She states that although she is building a new house and has decided to use all-electric, she just wanted to satisfy her mind that she has made the right choice.

By a few simple questions, we are able to determine that she is building this new home for herself and her husband who has retired from business, and that she is looking for comfort, convenience and free time more than anything else.

After showing a few of the ranges, we talk to her like this:

As long as you are planning on not spending much time in the kitchen and you want trouble-free service, trouble-free modern living, do you really believe that you can get it from an electric range when an appliance company sells the range, an electrician puts in the wiring and an electric power company connects the power to the meter box?

If you did have trouble, just whom would you call?

Would you call the appliance company who sold you the range, and

## An Announcement by PETROLANE, LTD.

As a distributor of Ensign carburetors and parts, Petrolane is establishing a complete stock of Ensign carburetors and parts in Northern California for the convenience to the LP-Gas dealers in the Northern California area.

### **ENSIGN** CARBURETORS & PARTS

Petrolane will warehouse this stock of Ensign carburetors and parts at its retail store in Yuba City, which is operated under the name of:

#### MORRISON'S PETROLEUM SERVICE

*Please direct all communications and orders for  
Ensign carburetors and parts to:*

**PETROLANE, LTD., P. O. BOX #111**  
765 Sutter St. Yuba City, Calif. Phone 3-6561

## PETROLANE, Ltd.

General Offices — 1696 East Hill Street  
Long Beach 6, California



LP-GAS

Compression

Flare Fittings

Brass Nipples

Write for Catalog and

New Lower Net Prices B-7



RELiance TUBULAR PRODUCTS CO.  
9112 ST. CLAIR AVENUE - CLEVELAND 8, OHIO

whose interest in you ended with the original sale?

Would you call the electrician who did the wiring, as the trouble could possibly be in the wiring? He has no interest in you after his work is finished and he is paid.

Or would you call the power company who is interested only in selling you electricity for the house?

How can you get modern trouble-free living when you must expect service from three different fields?

At this point we tell the prospect

about our "Gas in a Package"—the appliances, the gas service—one service and one outlet for her troubles if they develop—and that our interest in her is far more than would come from any one of the three companies concerned when she uses electricity.

We tell her that we even believe in advertising it this way.

Then we show the proof of our ad and tell the story again of "Gas in a Package."

Nine times out of ten she'll see the

space heater and say, "We will have to have some heat"—and start asking questions.

We now have her interested and the rest is up to us and how far we go depends upon our ability to sell.

Now, of course, this doesn't always work—but sometimes it does and every time that it does means just that much more business and one more satisfied customer for us—and an extra buck for "yours truly" and that's the guy I'm most concerned about!

Now, let's take a ridiculous example in order to show the power behind this type of advertising.

### Small Dealer Advertising

Take a small dealer who has a store in a suburban area, or a rapidly growing small town—you know lots of them—a man, his wife, maybe one or two helpers.

He'll say most of the time: I'm too small to advertise. I can't afford to do advertising. In fact, I'm out putting in installations and my wife is left alone in the store to take in money and talk to what few customers come in.

Even if someone did come in, she couldn't sell them, so why waste money on advertising?

Well, there is not much argument here about advertising—or is there?

Let's look at it again. Here is a small, one-man operation.

He sells, he installs and he services the equipment he sells.

What would happen if he ran an ad something like this:

Show the picture of a man with a wrench in his hand or a roll of tubing on his arm.

Then head up the ad with: "Notice: I'll not be in my store Tuesday and Wednesday. I'll be out installing some gas appliances. However, if you would like to come in, my wife can show you our appliances. Signed Joe, the One-Man Gas Company."

This type of advertising and thinking would get him business. In fact, he could build his whole theme of company operation around "Joe, the One-Man Gas Company."

Let's look at the ad for a moment.

It's convincing—because it states he has already sold some appliances just as if he had said "just received another carload."

It's honest in that it states it's a

the pump that

# FILLS MORE DIFFERENT NEEDS

than any in the LPG industry!



## THE PRACTICAL CORKEN "10"

**Mechanically sealed, leak-proof!**

A sturdy, close-coupled pumping unit, with ¾ HP single phase explosion proof motor and starting switch. Fills 100 lb. cylinders in 4 to 6 minutes. Fuels tanks at 10 GPM. Single units, including starting-switch . . . \$185

TRUCK FUELING

BUS FUELING

TRACTOR FUELING

ROAD MACHINERY FUELING

APPLIANCE DEALERS

SUB DEALERS

TRAILER BOTTLE FILLING

# CORKEN'S inc.

206 E. Grand Oklahoma City RE 6-6518

EASTERN OFFICE: 916 PUTNAM AVE., PLAINFIELD, N. J. PHONE PL 7-1305



small, one-man company; it shows personalized service which many people want.

Some like to buy from small companies in order to get extra good values.

The ad is humorous and it's different.

The ad will appeal to certain groups of people.

The ad has strong buying appeal.

It states that the dealer has already sold something—and, we all know, people will follow the leader.

It easily prepares a way for the wife to take orders from the prospects who may come in.

Some people just won't be sold—they like to buy on their own.

This small company could be expanded to many employees, many trucks, and still be "Joe, the One-Man Gas Company."

Tie your own activity into an advertising theme and play this advertising theme in all the keys—both high and low.

Just remember, it always pays to play a "theme" because you will automatically (in spite of yourself) sell an idea rather than a thing—and that's good selling anywhere, any time!

#### Gas Versus Electric

Now, how about beating electric competition? This is a big subject—too big to be answered or covered in a few minutes—but there is one underlying idea that will have to be used if we hope to beat our electric competition.

In the first place, I am mad about the electric competition.

They are beating us—rubbing it in—and laughing at us—with a range that has only a few speeds, no broiler, is slow, is dangerous to use, is dirty, is very high-priced, considering its life, has a limited guarantee, and has absolutely no re-sale value.

And take the water heater! The electric people are doing the same thing here!

It takes an 82-gal. electric to do the same as a 30-gal. gas water heater. It takes more space at \$10 to \$15 per sq. ft. cost in building. It has very little recovery or "come-back." It costs more to run. It has no dial temperature control that will respond instantly. It costs more to buy. And it doesn't even have a vent—that



# Everyone Is Looking

## AT THE NEW TWO PIECE CYLINDER HOOD



Pat. Pending

**GALVANIZED OR ALUMINUM**

# GOSS GAS INC.

**ROUTE 8 GLENSHAW, PA.**

Manufacturers of:

L.P. Lead Melting Furnaces, Blow Torches and Salamanders.  
L.P. Cylinders - 10 lb. 20 lb. 100 lb.  
Cutting & Welding Equipment

NOTHING SAFER THAN

# Tite Seal

FOR LP-GAS CONNECTIONS

**THE PERFECT SEALING COMPOUND**

**WON'T HARDEN OR CRACK**

RADIATOR SPECIALTY COMPANY



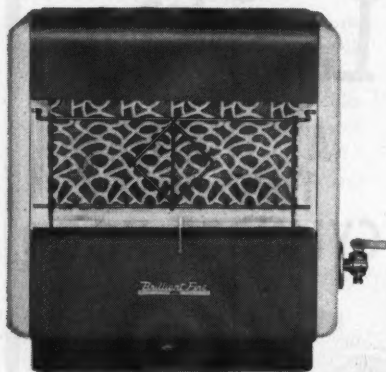
**ABSOLUTELY LEAKPROOF**

**NO THREAD SEIZURE**

CHARLOTTE, NORTH CAROLINA

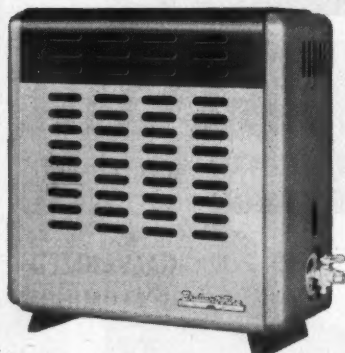
## Brilliant Fine CIRCULATORS FOR ALL GASES

### COLOR HARMONY decorator models



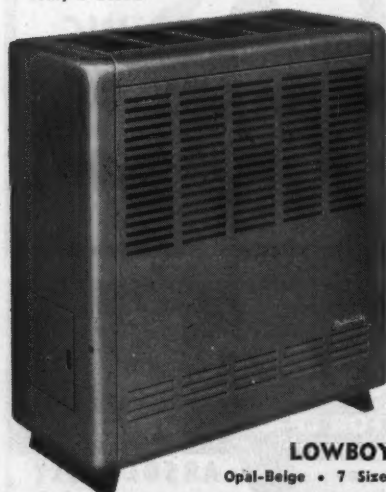
**LITTLE GIANT**

Dove Gray & Coral • 3 Sizes



**HI-CAPACITY**

Ivory & Brown



**LOWBOY**

Opal-Beige • 7 Sizes

WRITE FOR CATALOG 53  
See Complete Line. Get Dealer Plan.

**THE OHIO FOUNDRY  
& MANUFACTURING CO.**  
"Quality Heating Equipment Since 1846"  
**STEBENVILLE, OHIO**

symbol of fast hot water service!

And yet, they are beating our ears off with electric water heaters.

Now, consider refrigerators! Here's where I really burn up! They are really giving us a shellacking on refrigerators, and you know it.

Let's compare the two products—gas versus electric.

A gas refrigerator has a 10-year guarantee against electric's five-year. It must be better; it's guaranteed twice as long!

Gas has no moving parts—electric refrigerators have multiple. The gas refrigerator is silent—electric is not. Gas refrigerators do not lose efficiency—electric does.

Gas refrigerators are cheaper to buy because difference in first price is more than offset by the resale values.

And then to top everything off, gas refrigerators cost less to run than electric, and are the only refrigerators made that will keep your kitchen warm in the winter and cool in the summer.

I shudder to think of what they would do to us if they had what we have to sell—and we had to sell what they have. So, that's why I'm worked up over the situation.

### Nudging Competition

Now, what can we do about it?

It's simple—and it's easy!

Let's consider a typical market area in which there are a hundred appliance sales. At the present time, 80 of these sales will be made by electric, 20 by gas. By ordinary mathematics it is obvious that we would have to make 30 more sales in order to break even with electric.

But here is where the "Big A" comes in.

You don't have to make 30 more. You only make eight more—because every one that you really sell against electric competition—the one you sell when they have made up their mind to buy electric—will sell you three more—provided, and only provided, that you put the "Big A" to work.

So here is the gimmick—the angle—the nudge—or whatever you want to call it. And remember, our gas appliance must be sold for more money than a corresponding electric product would cost.

In the case of a range, the customer must be sold to the point

where she says (this wonderful woman): "Look what I bought!" Sold to the point that she doesn't say: "It isn't what I wanted but I was offered so much for my old one I couldn't turn it down. I'll use it awhile and then get what I really want." No, you want to hear her say: "WHAT a range. It does this, it does that, it does the other thing, and you know, Mable, I only had to pay a little more than I would have had to pay for an electric range. I really didn't want to pay so much, but, as you know, I always buy the best."

That wonderful woman of distinction, of prominence, of good judgment. That woman of foresight. That marvelous woman who says *I bought!*

### Price Is Influential

And why is the higher price important?

Did you ever hear anyone really brag or praise something that they got cheap, or bought because of low price? Of course not!

But get them to spend a few extra bucks for something—because of what it will do for them—and they will always arrange to show you and tell you about the new thing which they purchased. But they must feel that their good judgment justified their paying a few dollars more.

Do people buy on price? Sure, but not quite the way you think.

People are influenced by price when they buy some article with which they are not trained or familiar. The higher the price, the better the quality.

Let me give you a little example. Did you ever watch a middle-aged man go shopping with his wife for a suit? Try it sometime; it's fun.

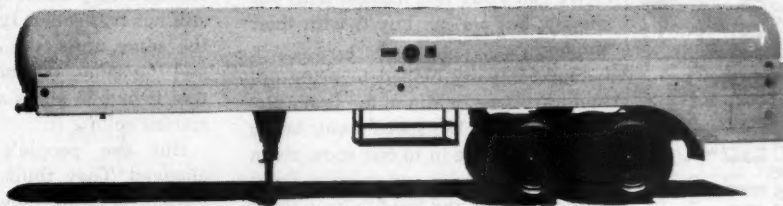
Watch him feel the goods, look at the color, and then slide his hands down to the sleeve to see the price. If it has a big tag, he'll pull the suit out and try it on and preen and smile to himself about how good it feels.

And nine times out of ten, he'll always pick a suit that sells for more than he intended to pay—just because the price on the sleeve made it feel better on his back!

Be honest—you probably do it, too.

So, all we have to do is to justify that price—then the "Big A" takes over.

# Superior makes it BETTER!



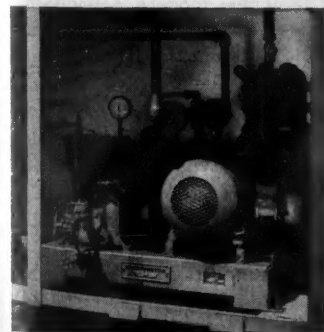
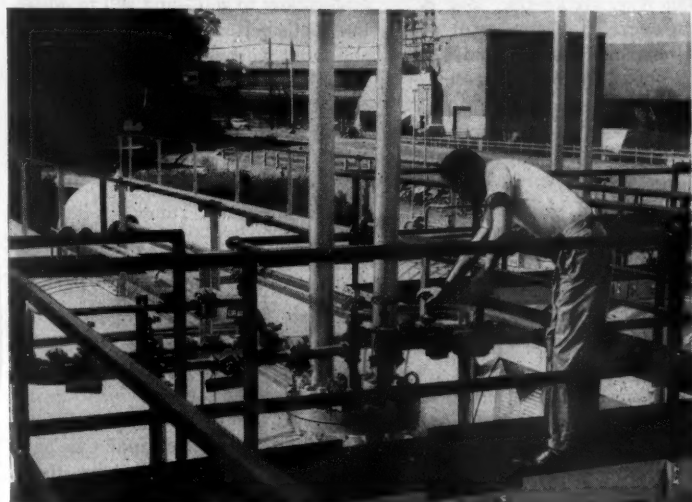
## EVERYTHING FOR LP GAS STORAGE & TRANSPORTATION

The FIRST High Pressure vessels for LP gas in the Southwest were made right here! That's why Superior makes it better. Through experience, we've gained the know-how. And our experience has shown us what you want and what your customers want in LPG transports and storage. All these demands have been translated into reality and incorporated in Superior products. The complete Superior LPG line offers everything you need. You name it. Superior makes it — and makes it better!



4110 N.E. 8th, AMARILLO, TEXAS  
INQUIRIES ANSWERED PROMPTLY

## PIONEERS IN HIGH PRESSURE LPG TRANSPORTATION EQUIPMENT



**ENGINEER INSPECTS VALVE** at the Holyoke Gas and Electric Department's propane plant in Holyoke, Mass. When Holyoke changed from manufactured gas to natural gas piped from Texas, they installed this automatic propane plant to serve as an auxiliary source of supply.

**WORTHINGTON LPG TRANSFER UNIT** is a compact, self-contained assembly comprised of compressor, motor, starter, suction surge drum, oil filler pot, valves and pressure gauges.

## Compact LPG transfer unit eliminates tank-car losses at modern propane plant

By using a modern Worthington LPG Transfer Unit to remove propane from tank cars, The City of Holyoke Gas and Electric Department squeezes out the last profitable drop of fuel it pays for. Residual vapor is not lost but is transferred to storage tanks along with liquid propane.

Take a lesson from Holyoke, and don't leave *your* profits in the tank car. Learn how fast a Worthington LPG Transfer Unit will pay for itself in gas saved. Write for Bulletin H609B1A to your nearest Worthington district office. Or write to Worthington Corporation, Section 24N.3.3, Harrison, N. J.

N.3.3

### WORTHINGTON



LPG Transfer Units



# A SIGN OF ENDURING FIDELITY

Like the Sign of Cancer—the Universal sign symbolizes constant, enduring fidelity. Universal Petroleum recognizes traditional fidelity to customers both in production and marketing of “everything done in oils.” Your source in our universe is UNIVERSAL.

REFINED PRODUCTS • NATURAL GASOLINE • BUTANE and PROPANE  
SPECIAL NAPHTHAS • LUBE OILS and SOLVENTS

CARGO, TANK CAR OR TRANSPORT LOADS • WATER TERMINAL AT CHICAGO

## UNIVERSAL PETROLEUM COMPANY

*Producers and Marketers of Petroleum Products*

910 SOUTH BOSTON BLDG., TULSA, OKLA.

REGIONAL OFFICES: Casper • Billings • St. Louis • Houston • Albuquerque

Cable: UNIFUELS  
UNIFUELS



That “A” can make or break us. Let’s make it make us.

We have been trying to buy this market with our money—\$90 for your old range. It is a new low in selling.

We can’t buy this market with our money, but we can buy it with their money.

Our company helped to bring out and introduce in Miami the first automatic washer. We spent many hours dragging people in to our show room with their laundry, set them in front of the machine and tried to keep them interested for the 40 minutes that it took the machine to do their laundry. It was tough work; it was hard work. And there were only a few believers or buyers.

Then along came the war and there were no washers of any kind, and then the war was over and we had lists of people that were ready to buy washers—a list as long as this room.

What happened?

### Women Advertise For You

They hadn’t changed one nut or one bolt in the machine. It was the same one that we couldn’t even sell before the war. BUT—the “Big A” had taken over. That wonderful woman had been to cocktail parties, to sewing circles and bridge parties—and told her friends that her automatic washer was home doing her laundry while she was enjoying life.

“Papa, buy me one” — “Honey, get me one” — “Listen, you big so and so, buy me one or else” — The “Big A” was at work.

Do you want more proof? That’s exactly how the electric company got their business in the first place.

How do I know?

I didn’t get these knarled knuckles and bent thumb from pushing door bells on gas equipment. I got it pushing door bells selling electric.

I was there when electric units blew up and tore holes in the pots and pans. I was there selling them time clocks that wouldn’t keep time; smokeless broilers that smoked; tailored cooking that burned; cleanliness that was dirty below—but people bought because we had a story, and because it cost more, never less—and because it cost more it must be better!

And that woman who said, “I bought an electric range” always justified her good judgment when she told her friends about it. Yes, they

simply said, “Papa, buy me one”, until it became a fad—and there you have it.

Electric equipment has shown very little progress since the war—has changed very little. It is still slow; it still has no broiler. Its ovens still has the same units, the same six sides, and the same “on and off” operation that it had 25 years ago when I first started selling it.

But the people’s thinking has changed. They think it is fast, they think it is clean, they think it is economical, and they’re buying it!

### Gas Equipment Improved

On the other hand, gas equipment since the war has improved 300%. It is faster; it is clean; it is better constructed. It’s been made automatic. It is more economical and it is better and more beautifully designed—and with a better dollar value than ever.

But our thinking has stopped. It hasn’t improved. All we have is wishful thinking.

We are in a sag—S A G—which is GAS spelled backwards. Let’s get to work. Let’s get to thinking. Let’s start advertising to sell—and sell to advertise. Let’s believe in what we sell and sell what we believe in.

Let’s aim our advertising and our ads to force the electric appliance dealer to talk about something he hasn’t got. Forget ads of “just like mother used to cook”, and “faster and cheaper than ever”, and “\$90 for your old range”.

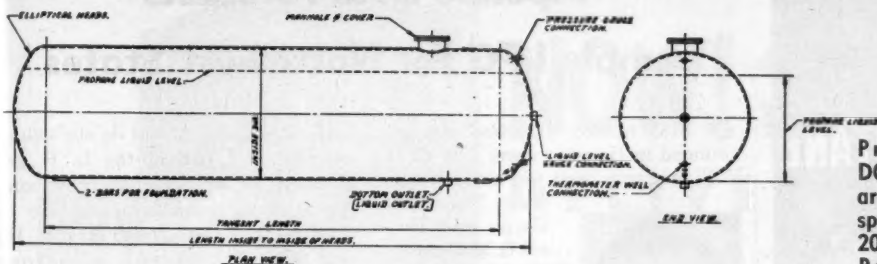
Let’s aim our ads in such a way that it will force them to sell broilers they don’t have and apologize for the water heaters that have no “come-back.” Let’s make them discount the electric service that can only do the easy jobs. Let’s prove that gas will do the hard jobs better and is the only dependable fuel for all jobs, times and weather.

Let’s sell new, modern, dependable appliances—and quit trying to buy their old equipment. Let’s sell and quit trying to give it away.

Let’s turn the S A G around and make it spell G A S again and make G A S mean “GOOD, ALWAYS, SURE, or, make G A S mean “GETTING AHEAD SWIFTLY” while “GOING ALONG SAFELY.”

Let’s put the “Big A” to work by advertising to sell, and selling to advertise!

# PROPANE STORAGE TANKS by DOWNTOWN



Propane Storage Tanks at DOWNTOWN are electric arc welded construction; welds spot checked with x-ray for 200# W.P., in accordance with Paragraph U-69 of A.S.M.E. Code for Unfired Pressure Vessels — Hydrostatic tested at 400# W.P. or 250# W.P. according to Paragraph U-201 of A.S.M.E. Code and the A.P.I. — A.S.M.E. Code. Construction meets Codes as specified above, National Board of Fire Underwriters and other approval agencies' requirements. We'll be glad to comply with your request for further details.

## TANK DIMENSIONS

18000 GAL. TANK.		GROSS CAPACITY U. S. GALLONS	* 30000 GAL. TANK	
	15480	APPROX. PROPANE CAPACITY GAL. (86% OF GROSS)		25800
	200	WORKING PRESSURE A.S.M.E. PAR. U-69 CODE		200
	94"	INSIDE DIAMETER, INCHES		106"
	47'-4"	TANGENT LENGTH		62'-6"
	51'-3"	LENGTH INSIDE TO INSIDE OF HEADS		66'-11"
	25.4	WEIGHT TONS (APPROX.)		41.3



## DOWNTOWN IRON WORKS, INC.

DOWNTOWN - PENNA.

DIVISION OF  
PRESSED STEEL  
TANK COMPANY



STEEL AND ALLOY PLATE FABRICATION AND HEAT EXCHANGERS



## PROPANE TRUCK TANKS

FOR ALL DELIVERY NEEDS

In streamline (illustrated) and walkway types, 1,181 gal. to 1,700 gal. water capacities. Constructed in accordance with A.S.M.E. Code, par. U-69, 200# w.p., or A.S.M.E. Code, 1950 edition, 250# w.p. Mounted on your chassis complete with valves, fittings, pump, hoses. Unit ready for immediate use when picked up. Write for details.

Also 500 gal. and 1,000  
gal. Domestic Tanks  
(Salem System)

Storage Tanks  
Up to 8,000 gals.



**McNAMAR AND CROWLEY, INC.**  
SALEM 5, ILLINOIS

**Lee**  
**PROPANE & BUTANE**  
**CYLINDERS**  
 (ICC48A240 SPECIFICATIONS)

**100 LB.**  
 PROPANE  
 CAPACITY

**Designed for  
 SAFE and  
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 SERVICE**

**20 LB.**  
 PROPANE  
 CAPACITY

**STEEL COOPERAGE  
 DIVISION**  
**THE SERRICK CORPORATION**  
 4801 Bellevue  
 Detroit 7, Michigan

## Pipeline Deal Forecasts

### Ample LPG For Northwest States

A \$150 million gas deal was announced in Houston June 4 by C. R. Williams, president of Pacific Northwest Pipeline Corp., and Robert E. Maloney, president of Specialty Gas Products, of San Francisco.



R. E. Maloney

The contract provides for the sale to Specialty of the total liquid by-products to be extracted near Durango, Colo., from Pacific's proven reserves of over 3 trillion cu. ft. of wet natural gas in the San Juan Basin of New Mexico and Colorado.

Geologists have estimated that over 3 billion gals. (equal to 300,000 tank cars) of hydrocarbon products (propane, butane and natural gasoline) can be produced from these reserves after a permit is granted by the Federal Power Commission. The commission is now holding hearings in Washington, D. C., on the question of natural gas for the Pacific Northwest—now the only major area in the United States without a supply of natural gas. The other remaining applicant in the hearings for this market is West Coast Transmission Companies which would like to build a pipeline from the Peace River area in Canada bordering northern Alberta and British Columbia.

The sale to Specialty of the liquid by-products alone, over a period of 20 years, will net back to Pacific \$150 million—exceeding the \$144 million estimated cost of building the entire project which includes the field gathering system, the processing plant near Durango, and the 1400-mile pipeline to the Pacific Northwest.

Mr. Maloney predicted recently in Houston that a tremendous demand for L. P. gas will be created in the area surrounding the route of Pacific's proposed pipeline extending from Durango, Colo., to Bellingham, Wash. This prediction, he said, was based upon careful studies of what has happened elsewhere to the demand for L. P. gas when natural gas comes into a major area. Mr. Maloney is also president of Calor Gas Co., of San Francisco, a large marketer of liquefied petroleum gas products in the far west.

He said Calor would do the actual marketing job of the L. P. gas through its organization now supplying most communities in the 11 western states and North Dakota. He said that the supply of L. P. gas from California was inadequate to meet the seasonal peak demands during the past winter in the general marketing area of the Pacific Coast commonly known as District V, and that it became necessary to import relatively large quantities into that marketing area from the Midcontinent

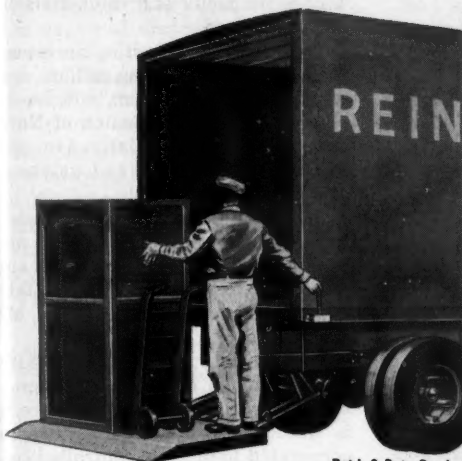


Calor's general marketing area and the strategic location of the Pacific Northwest proposed pipeline.

and Rocky Mountain producing fields, which proved expensive.

Therefore, it was concluded that the strategically located San Juan Basin supply would provide the reservoir from which to supplement District V production to meet the industry's supply responsibility to the L. P. gas users for the demand anticipated throughout the Inland Empire and the Pacific Northwest and, in his opinion, the combined production may fall short of meeting all long range requirements. He cited the fantastic growth of the L. P. gas industry since 1940 when 300 million gals. was the national total as compared to an estimated 4½ billion gals. of L. P. gas marketed in 1952 as an indication of the industry's place in the nation's economy.





Patd. & Pats. Pend.  
U. S. and Foreign

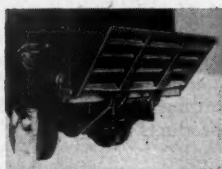
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**STOP  
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A powerful freight elevator on the back of your truck that lifts or lowers *Any* kind of load *Faster* in perfect *safety* to operator and merchandise. Now Anthony Lift Gates do *All* operations faster by eliminating extra time-consuming operations. Uses only ONE cylinder and ONE control lever.

New Brochure shows *HOW*—you can cut *your* trucking costs up to 50%. Send for *your* copy today—no obligation.



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LOADING**

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FASTER**

**DOES ALL OPERATIONS—  
OPEN, CLOSE—LIFT, LOWER WITH  
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**ANTHONY** THE WAY TO MAKE TIME PAY

**LIFT<sup>®</sup> GATES**



**ANTHONY COMPANY**

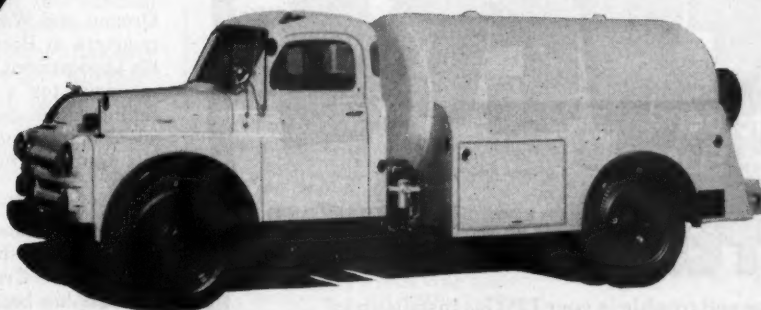
**STREATOR, ILLINOIS • DEPT. 16C**



## CHARLOTTE TANK CORP.

POST OFFICE BOX 8037

• CHARLOTTE 8, NORTH CAROLINA

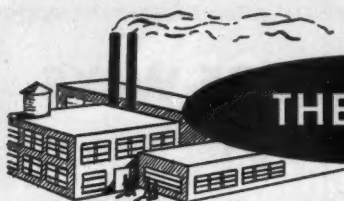


**CHARLOTTE TRUCK TANKS** are engineered to a standard and guaranteed to be in operating condition when they leave our plant.

A complete service, tanks furnished to fit your present truck or on a new chassis of your choice.

*All Standard Sizes Available . . . . . Construction ASME*

**WRITE TODAY FOR FULL DETAILS AND PRICES ON OUR  
LINE OF TRUCK TANKS • L.P. GAS SYSTEMS • CYLINDERS  
AND ANHYDROUS AMMONIA TANKS**



## THE TRADE



Election of Robert L. Kidd, Bartlesville, Okla., one of the outstanding oil production men of the industry, as president of the newly-formed *Arkansas Fuel Oil Corp.* was announced recently by the board of directors.

Mr. Kidd has been in charge of the oil and gas exploration and production activities of the *Cities Service Oil Co.* (Del.) and in the past five years has directed the greatly expanded exploration and drilling program of *Cities Service* in the major producing areas of the United States and Canada.

H. T. Goss and J. A. Welch, Shreve-

port, and Erle G. Christian, New York, were elected vice presidents. Mr. Goss and Mr. Welch were vice presidents of the predecessor *Arkansas Fuel Oil Co.* M. J. Lasseigne and John S. Sheffield, Shreveport, were elected treasurer and secretary, respectively, and have been long associated with the company.

*Rockwell Manufacturing Co.*, Pittsburgh, will open a new valve and meter plant in Sulphur Springs, Texas, during the latter part of the year, Lloyd A. Dixon, Jr., vice presi-

dent of the meter and valve division, has announced.

The plant, representing an investment of several million dollars, and now under construction, will be devoted largely to production of Nordstrom valves, particularly 4-in. and smaller steel hypreseal valves in every pressure range.

The new factory is being established to serve the entire South and Southwest and a large part of its output will go to oilfields in Texas, Oklahoma, Louisiana and Mississippi, Mr. Dixon said.

The one-story brick and tile 125,000 sq. ft. plant is completely air-conditioned. Except for the office space, it is windowless, a design feature incorporated to provide controlled conditions in which to perform close tolerance manufacturing operations.

George A. Cunningham of Orlando, Fla., former sales engineer in the Atlanta district office, has been named assistant manager of gas products sales, according to Gilbert T. Bowman, gas products sales manager.

L. A. Brand, vice president of *Empire Stove Co.*, Belleville, Ill., has announced the appointment of Dale A. Black as branch manager for the northwestern territory covering northern California, Idaho, Nevada,



Dale A. Black

Oregon and Washington, with headquarters in Portland, Ore. Prior to his appointment, Mr. Black was sales manager for a Seattle distributor, selling gas appliances. Mr. Black has spent approximately 20 years in the gas appliance industry.

Albert G. Lindsay, well-known international businessman and former manager of *Crosley Corp.*, foreign division, has been named manager of the Export and International Divisions of *Rockwell Manufacturing Co.*, according to an announcement by L. A. Dixon, executive vice president.

Mr. Lindsay will make his headquarters at the firm's home offices in Pittsburgh.

Born in southern Alsace and an American citizen by consular registration at birth, Mr. Lindsay was educated in France, Germany and Switzerland and has been exclusively engaged in world-wide business for 30 years.

# REVERE

Easy to Bend,  
Easy to Flare

## COPPER WATER TUBE

Save time and trouble in your LP-Gas installations!  
Ask your distributor for long coils of rugged, soft temper Revere Copper Water Tube.

### REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801  
230 Park Avenue, New York 17, N.Y.

Mills: Baltimore, Md.; Chicago and Clinton, Ill.; Detroit, Mich.;  
Los Angeles and Riverside, Calif.; New Bedford, Mass.; Rome, N. Y.—  
Sales Offices in Principal Cities, Distributors Everywhere.

SEE REVERE'S "MEET THE PRESS" ON NBC TELEVISION EVERY SUNDAY

At a special meeting of the board of directors of *American Radiator & Standard Sanitary Corp.* recently, Joseph A. Grazier was elected acting president of the corporation to serve as its chief executive officer.

This action was taken because of the continued illness of Theodore E. Mueller, president of the corporation.

Mr. Grazier is now executive vice president of American-Standard. He is also a member of the board of directors and its executive committee.

Jake C. Loehr has recently become associated with *Eastman Products Corp.*, Plano, Texas, manufacturers of brass fittings, including stove and range connections.

Mr. Loehr was formerly associated with Anderson Copper & Brass Co. He will serve as sales representative in the four Southwestern states.

Resignation of Tom Gibbons, director of marketing, *Caloric Stove Corp.*, effective May 8, has been announced by LeRoy Klein, assistant to the president.

John H. Jennings has been named chief engineer in charge of all air-conditioning activities at *Servel, Inc.*, Evansville, Ind., it was announced recently by Theodore W. Rundell, vice president in charge of engineering.

Mr. Jennings joined Servel a year ago as chief engineer for room air conditioners. He is now responsible for engineering on "All-Year" air conditioning as well. Previously he was chief engineer of the Mitchell Manufacturing Co. of Chicago.

Dr. Eugene P. Whitlow, formerly development engineer on "All-Year" air conditioning, was appointed assistant chief engineer for "All-Year".

Ed Geishert, who was development engineer for room air conditioners, is now assistant chief engineer for that product.

David G. Dodds Jr. has joined the field sales organization of *Superior Valve & Fittings Co.*, Pittsburgh, it was announced by George R. Allen, vice president of the firm.

Mr. Dodds will travel out of the firm's New York office and cover territory in New York and New England as an assistant to F. Neil Robson, district manager.

Having previously been associated with the sale of high pressure, refrigeration, air conditioning, and L. P. gas valves and fittings in New York, Mr. Dodds returns to a territory with which he is familiar.

At a meeting of the board of directors, the A. O. Smith Corp., Milwaukee, Wisc., announced that F. S. Cornell had been designated administrative vice president for the corporation.

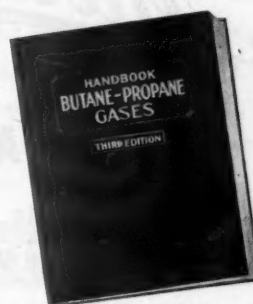
Mr. Cornell, only recently brought to Milwaukee from Kankakee, Ill., where he has been general manager of the Permaglas-Heating Division, has been with the A. O. Smith Corp. since 1945.

James W. McLaughlin, vice president, *Union Carbide & Carbon Corp.*, passed away recently at his home, 200 Forest Ave., New Rochelle, N. Y. His age was 62.

Mr. McLaughlin was chairman of Bakelite Co. and Bakelite Co., Ltd. (Canada); vice president, Carbide & Carbon Chemicals Co., and vice president and director, Carbide & Carbon Chemicals Co., Ltd.—all associated with Union Carbide.

## HANDBOOK BUTANE-PROPANE GASES

- Up-to-date technical facts on LP-Gases.
- 352 Pages. Illustrated with Charts, Diagrams and Photographs.



Check this partial list of contents.

### INTRODUCTION

The Progress of the Industry and the History of its Development.  
The ABC of LP-Gas, an Introduction to LP-Gas Operations.

### PHYSICAL AND CHEMICAL PROPERTIES

Properties of the Hydrocarbons in LP-Gas.  
Properties of Butane-Propane Mixtures  
Volume Correction Factors  
Analytical Determination and Testing

### PRODUCTION OF LP-GAS

Natural Gasoline Plants, Recycling Plants, Oil Refineries

### TRANSPORTATION AND STORAGE

Delivery by Truck, Rail, Water, and Pipe Lines  
Storage Tank & Pressure Vessel Design  
Liquid Metering and Pumping Systems

### UTILIZATION OF LP-GAS

Comparative Performance with other Fuels  
Appliance Installation and Testing  
Domestic Applications  
Commercial Applications  
Industrial Applications  
Enrichment, Peak Load and Standby Uses  
A Fuel for Internal Combustion Engines

### DISTRIBUTION OF LP-GAS

Installing and Servicing LP-Gas Systems  
Semi-Bulk Systems  
Bottled Gas Systems  
Gas Utility Service from Central Plants  
Multiple Utility Service from a Central Plant

### REGULATIONS

N.B.F.U. Pamphlet No. 58 (1947).  
Motor Carrier Regulations  
Freight Regulations  
Unloading Tank Cars  
Marine Regulations

### APPENDIX

LP-Gas Insurance  
Handy Tables for Field Use  
The Interchangeability of Other Fuel Gases with Natural Gases  
Flame Weeding  
Bibliography  
Glossary of Terms

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**BUTANE-PROPANE News**

198 So. Alvarado Street  
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Three personnel changes in the producing department of *Stanolind Oil & Gas Co.* were announced by E. F. Bullard, president.

D. B. Edwards, former chief plant engineer, was appointed assistant sales superintendent. R. L. Marek, former superintendent of crude oil sales, was appointed gas sales superintendent to succeed S. C. Barrett, who recently resigned. E. W. Kilgren, gas development supervisor, was promoted to chief plant engineer, succeeding Mr. Edwards.

Appointment of the Schaaf-Vaughan Co., 729 E. Main St., Springfield, Ohio, to represent their company in the states of Ohio, Michigan, Indiana and Kentucky was announced recently by George Postlewait, sales manager, *Pacific International Products, Inc.*, San Marino, Calif.

Pacific International manufactures a complete line of high pressure valves, regulators and tank fittings for the L. P. gas and gas industry. Recently they have been expanding

their distribution throughout the United States and the appointment of Schaaf-Vaughan Co. will give them excellent representation in the four states mentioned above.

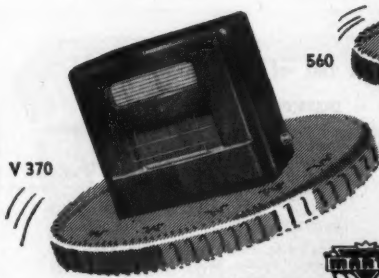
Ed Schaaf, who is a veteran in the gas industry, was instrumental in the organization of the Ohio LPG Association several years ago. Bud Halloway and Bob Gridley, who cover parts of the territory mentioned, are also quite well known by the gas distributors.

## The Complete *Martin*

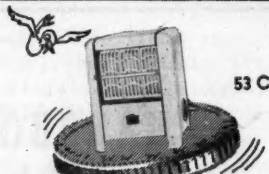
Line of

## GAS HEATERS

Keep Profits  
Flying Your Way

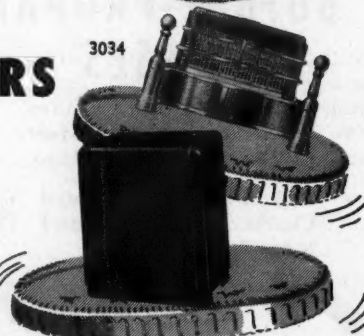


V 370



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560

This is the way to obtain more satisfied customers

- 8 Fully Vented Heaters  
15,000 BTU to 85,000 BTU
- 22 Unvented Heaters  
10,000 BTU to 50,000 BTU

Every Heater AGA Approved  
for Natural, Liquefied and Manufactured Gases

Write Your Jobber or Direct for  
Complete Catalog

Over  
45 Years Stove  
Experience



**MARTIN STAMPING & STOVE CO., Huntsville, Ala.**

## AUTOMATIC INCINOR GAS-FIRED INCINERATOR

A "MUST" in Homes with Automatic Heat  
A FULL-PROFIT LINE • NO TRADE-INS  
INCINOR IS APPROVED BY A.G.A. LABORATORIES

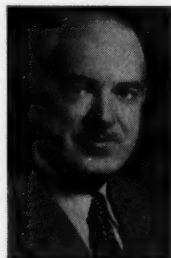
ACT NOW FOR COMPLETE DETAILS  
INCINERATION DIVISION, BOWSER, INC., CAIRO, ILL.



C. B. Dahlberg



L. E. Howard, Jr.



Admiral English

Carl B. Dahlberg, formerly sales manager of *American Pipe & Steel Corp.*, Alhambra, Calif., has been elected to the board of directors and made vice president in charge of sales, according to an announce-

ment by Jack Lane, president and general manager of the 50-year-old steel fabricating company. During the last four years Mr. Dahlberg headed up the largest sales growth in the company's history—a growth in volume as well as in additional products.

Also elected to the board is L. E. Howard, Jr., formerly with the Bank of America. Mr. Howard will be secretary and treasurer of the company. During World War II he served as acting treasurer of the Philippine Government at the time of the Leyte invasion.

Rear Admiral R. A. J. English, U.S.M. (ret.) was elected vice president in charge of production and engineering administration. A graduate of U. S. Naval Academy and the Naval War College, he earned his Master of Science degree at Columbia University. As Naval War Plans Officer at Eisenhower's headquarters in Algiers he planned and executed the landing operations in North Africa, Sicily, Italy and Southern France.

This strengthening of management, it was stated, is another step in the

company's program of expansion, which contemplates a merger that would further diversify the corporation's products, markets, and facilities. The company now has global distribution of its products and has extended its field construction operations of Guam and other Pacific islands. Manufacturing plants are maintained at Alhambra and Hemet, Calif., and negotiations are in progress for additional facilities at Blythe, Calif.

The company offers a complete line of oil field production equipment—separators, treaters, heaters, tanks—and holds the exclusive California license for the manufacture and sale of the products of the National Tank Co., of Tulsa, Okla.

The company has manufactured LPG equipment from the commencement of that industry; was the originator of the well known line of "Red Head" L. P. gas systems, and pioneered the development of bulk transportation tanks. Its products are well known throughout the country and its aboveground and underground bulk storage tanks can be found in such far flung areas as Arabia, North Africa and the Pacific Isles.

Two divisions of the Minneapolis-Moline Co. recently announced the opening of three new branch offices on their sales territories.

The southwestern division, with headquarters in Kansas City, Kan., opened two branch offices, one in Oklahoma City, Okla., and the other in Dodge City, Kan. The third branch office was opened in Atlanta, Ga., by the company's southeastern division located in Chamblee, Ga., near Atlanta.

According to company officials, the opening of these branches is part of a policy adopted to streamline service on repair parts and finished goods to dealers in the respective sales areas.

General Gas Corp. of Baton Rouge has announced the start of construction in Beardstown, Ill., of a new plant for the manufacture of liquefied petroleum gas storage tanks.

The plant will be operated by Delta Tank Manufacturing Co., Inc., major General Gas subsidiary, now manufacturing L. P. gas tanks in Baton Rouge and Macon, Ga.

Hal S. Phillips, president of Delta Tank, said the new plant is scheduled for initial operation this fall. He said it will occupy 17 acres, have a production capacity of 25,000 tanks

**NEW**  
**one-man**

# APPLIANCE TRUCK



**No. 79C**  
**Appliance**  
**Truck. Handle**  
**length 60"**  
**Nose width 24"**

▲ This Thomas special appliance truck is designed for easy, one-man operation. Ends back-breaking lifting of stoves, crates, refrigerators, water heaters, etc. Double-braced tubular steel frame. 10x3.00 full pneumatic tires, Hyatt bearings. Furnished with 2 web straps. Order on "return if not pleased" basis. Thousands in use.

## THOMAS TRUCK & CASTER COMPANY

406 MISSISSIPPI RIVER • KEOKUK, IOWA



## Cylinder Trucks Cut Delivery Costs!



**MODEL**  
**7325**

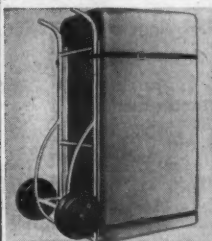
The M/W trade mark signifies the cylinder truck is made by the world's oldest and original manufacturer of trucks for handling LPG cylinders.

Standard cylinder truck shown at left is available with size 10 x 2.75 tires in two types.  
Air Tires.....\$19.25  
Semi-pneumatic .....\$18.20

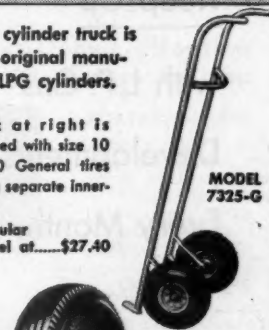
Truck at right is equipped with size 10 x 3.50 General tires having separate inner-tubes.  
A popular model at.....\$27.40

**WRITE FOR**  
**COMPLETE CATALOG**

Trucks also available for handling large 400 pound bulk cylinder. Write for illustrated literature and prices.



★ ★ ★  
**Appliance Truck**  
**Model 229**



**MODEL**  
**7325-G**

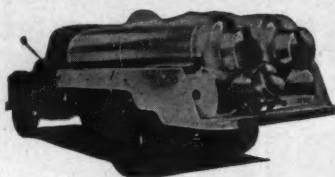
Pneumatics are featured on M/W trucks.

The safe, sure way to move heavy appliances. Large 12" air tires prevent damage to linoleum or varnished floors. Truck provides safe way to move heavy appliances up or down stairs. Price with two 12 ft. web straps . . . . . **\$47.60**

ALL TRUCKS MFG. BY

**Moellenbrock & Wilke**

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## NEW LOWER PRICES ON PROPANE DELIVERY UNITS

Prices Shown Below Include Truck and Tank Piped Complete

Specifications: New 1953, heavy duty 2 ton Chev., 2 speed axle, 825, 10 ply rear, 750 front tires; Nor-Tex propane tank as pictured above; pump, piped complete with 2" strainer, heavy duty valves and fittings; 50 ft. filler hose; tanks painted; clearance lights, ready to use.

1320 W.G. single	1400 W.G. twin	1600 W.G. single	1600 W.G. twin
\$3,811	\$3,895	\$3,995	\$4,020

We can furnish any make or model meter, pump, propane carburetion, fire extinguisher, etc. Any size single or twin barrel tank from 600 W.G. to 2,000 W.G. available, with or without truck or piping. We can save you money on any make or model truck, new or used.



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**WHITE RIVER  
DISTRIBUTORS, INC.**

Batesville, Arkansas

a year and a potential annual payroll of \$750,000.

Delta Tank officials explained the new Illinois plant will help speed delivery of L. P. gas tanks to a growing number of company customers in the midwest. The parent organization is one of the largest distributors of LPG in the U. S. and its major subsidiary currently produces artillery shells and other defense goods as well as storage tanks at its home plant in Baton Rouge.

H. Richard Nielsen has been appointed sales manager of the air conditioning division of *Servel, Inc.*, it is announced by John A. Gilbreath, assistant vice president in charge of air conditioning. He will be succeeded as southern regional sales manager by Nils D. Sellman.

The board of directors of *Cities Service Oil Co.* has elected W. Alton Jones as chairman of the board and Burl S. Watson as president.

Mr. Jones will serve as the company's chief executive officer in charge of the supervision and direction of its affairs. As chairman, he

will turn over to Mr. Watson certain administrative duties and devote increasing attention to the long-range expansion and development of the Cities Service Oil and natural gas interests, in both the domestic and foreign fields.

Mr. Watson, formerly executive vice president, has been associated with Cities Service for 36 years.

Donald A. Allbert has been appointed sales representative for Janitrol Domestic-Commercial space heating equipment in the Iowa-Nebraska area, according to an announcement by H. C. Gurney, sales manager, Janitrol Division, *Surface Combustion Corp.* He will work in cooperation with the E. A. Brown Manufacturers' Agency, of Omaha, Janitrol representative for the Iowa-Nebraska territory.

Donald Allbert has completed his extensive training in the sales and service of Janitrol equipment, and will maintain his headquarters at the E. A. Brown Agency offices, 905-6 Redick Tower, Omaha.

The appointment of Carl L. Blake as a regional representative of the Home Appliance Division, *Hamilton Manufacturing Co.*, Two Rivers, Wisc., is announced by R. G. Halvorsen, vice president in charge of sales.

According to Mr. Halvorsen, this is another step in the expansion of the Hamilton sales staff to provide for the marketing of the company's complete home laundry equipment line to be introduced in June.

Mr. Blake's territory will include the states of Utah, Colorado, Oklahoma, New Mexico and Arizona as well as San Antonio, El Paso and Amarillo, Texas.

Division of the marketing department of the *Texas Natural Gas Corp.* into two separate and distinct units has been announced by John T. Oxley, president.

The division has already become effective with John D. Curtin as manager of the natural gasoline marketing department and Robert C. Bradley manager of the liquefied petroleum gas marketing department.

*Downington Iron Works, Inc.*, Downington, Pa., a division of The Pressed Steel Tank Co. of Milwaukee, is erecting and equipping a new building at Downington for the manufacture of pressure tanks for the

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storage of gases and liquids, ranging in sizes from 250 gals. to 1750 gals. water capacity.

This building will also house the heat exchanger division, thus providing additional space for the production of these units, resulting in increased capacity and improved handling facilities.

The appointment of Howard L. Burns, Jr., as regional representative for metropolitan New York and New Jersey was announced recently by *Hamilton Manufacturing Co.* vice president in charge of sales, R. G. Halvorsen.

Mr. Burns has been associated with the sale and distribution of home appliances for the past 20 years, excluding five years of government service. He served with the War Production Board, the United Nations Rehabilitation Administration, and was Canadian branch chief of the National Production Authority.

Election of Reese H. Tucker, manager of the land-geological division, and J. A. Cleverley, manager of oil production, as vice presidents of *Cities Service Oil Co. (Del.)* is announced by S. B. Ireland, president of the company, following a meeting of the board of directors in Bartlesville.

Mr. Cleverley also was elected a director of the company. Mr. Tucker was elected to the board several months ago.

The National Warm Air Heating and Air Conditioning Association re-elected C. B. Phillips as its first vice president at the recent annual meeting of the Association in Cincinnati.

Mr. Phillips, vice president in charge of sales for Surface Combustion Corp., Toledo, has been active in the Association for many years. He served as a trustee for three years, second vice president for two years and will now assume his second term of first vice president of the Association. William D. Redrup was re-elected president of the Association at the Cincinnati meeting.

*Locke Stove Co., Kansas City, Mo.,* manufacturer of "Warm Morning" coal and gas heating stoves, has announced the appointment of E. M. (Ned) Douthat, Jr. as sales manager.

Ned Douthat has been associated with Locke Stove since 1940, and for the past two and a half years has held the position of production manager.

# STEADY VAPOR PRESSURE UNDER ALL WEATHER CONDITIONS!

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- Continuous full load output at any desired gas pressure, regardless of ambient temperature conditions, is a "GUARANTEED CERTAINTY" with the industry-tested Paracoil Steam Operated LPG Vaporizer.
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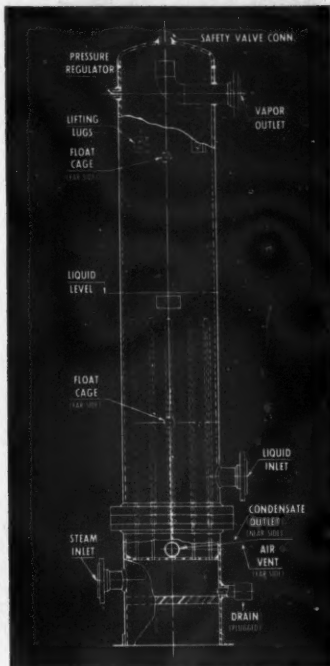
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A large capacity attractive radiant type heater equipped with double radiants — a desirable addition to any room.



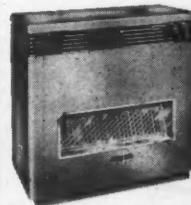
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A model rated at 15,000 BTU for quicker than usual auxiliary heat. Cabinet finished in gleaming white or brown porcelain enamel.



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Finished in a gracious soft brown to match the radiant type and vented circulator models. A handsome and excellent performing heater in sizes to meet your exact needs. Pilots available.



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A distinctive and beautiful cabinet in all sizes for use when venting is required or preferred. All vented circulators (except Model VC-20) equipped with double radiants in view behind high temperature glass panels. Pilots available.

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All AGA approved... chrome hearths... radiants interchangeable... circulator interiors well baffled with aluminum coated steel providing cooler cabinet.

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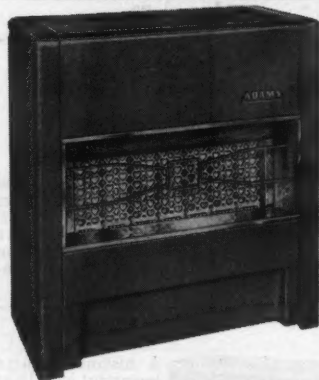
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Users are reporting exceptionally fine service in filling 20# tanks with the Krug Hand Pump.

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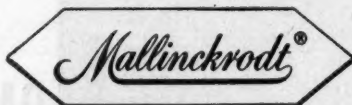
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- The accepted standard odorant for natural or liquefied petroleum gas—gives sure but harmless warning.
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For L. P., Natural,  
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Convert range to any gas by merely slipping UNIVERSAL NEEDLE POINT into valve and adjusting universal hood—down tight for L. P. gas—back off for other gases. It's just that simple. Needle points drilled #72 - 71 - 70 - 69 - 68 for top burners, numbers 55 and 56 for ovens. Hoods drilled to fit. Order needles by drill size.

Universal Needle Points . . . 7½¢ ea.  
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On orders for 1000 pieces or more deduct 1¢ per piece.

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## Bastian-Blessing Takes Vacation

Ralph Engstrom, sales manager of the Bastian-Blessing Co., has announced that the factory division of the company will be closed for vacation July 6-17.

A skeleton organization will be maintained at the factory to take care of emergency orders; however, Mr. Engstrom reports that the company will not be able to ship orders during this period and suggests that schedules be checked in anticipation of the vacation dates so that operations will not be affected.

The vacation period does not apply to the Bastian-Blessing office force, who will be on duty to handle correspondence.

## J. B. Green

J. B. Green, founder of Green's Fuel, Inc., Sarasota, Fla., and one of the pioneers in developing the LPG industry in the southwest, passed away June 10 at his home in Sarasota.

Born in Glenwood, Ala., Mr. Green established a plumbing and heating business in Florida in 1925 and soon became active in the development of LPG. Shortly thereafter he founded Green's Fuel, Inc., which grew rapidly and eventually opened distributorships throughout Florida, Georgia, North Carolina and South Carolina. He retired from active business in 1950.

## J. Beach Clow

J. Beach Clow, vice president of James B. Clow & Sons, Chicago, died at his home in Lake Forest, Ill., following a heart attack. He was 49, a native Chicagoan and prominent in civic activities.

## Frank Snowberg

Frank Snowberg, 62, veteran heating controls salesman for Minneapolis-Honeywell Regulator Co., died June 3 in St. Petersburg, Fla., after a brief illness.

One of the company's oldest salesmen, both in years and point of service, Mr. Snowberg was known to a wide segment of the heating industry.

## Demonstration Shows Ease Of Extinguishing LPG Fires

By Zoe Johnson

At Springdale, Ark., this spring, the Arkansas Butane Dealers Association at its northwest Arkansas session literally put on the fireworks and a demonstration of how to control L. P. gas fires.

Northwest Arkansas (because of its great stretches of timberland) has become very fire-hazard conscious, and the well publicized meeting drew the largest attendance for a one-evening session in the history of the organization. There were 142 registrants for dinner. Previous largest

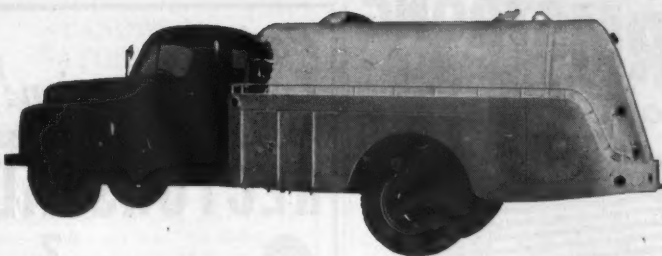


Among those present at Arkansas Butane Dealers Association, left to right: Jimmy Chardon, Arkansas Foundry, Little Rock; Cy Carney, Fayetteville; Webb W. Williams, acting Mayor, Fayetteville, and W. P. McNair, Fayetteville.

attendance at district meetings was 70 at Warren about a year ago. Johnnie Porter, executive secretary of ABDA, says the Springdale meeting was the most successful, educational, and result-producing that the association has ever sponsored.

Objective of the meeting was to acquaint users, potential customers and city fire departments with accurate information to aid them in preventing and combating fires which could occur from careless handling of L. P. gas. This was done by demonstrating that such fires, when fought with the proper methods and modern L. P. gas fire-fighting equipment, are no more destructive or harder to control than ones from other causes.

Attending the meeting were representatives from practically all butane dealers in central and northwest Arkansas and several from Missouri and Oklahoma. Also present were safety officials of major petroleum producers, mayors, aldermen, other



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### MODEL 1900 CONVERTER For LP-Gas For Internal Combustion Engines Up to 75 H.P.



Model 1900 Converter  
with Electric Primer

The ALGAS 1900 Converter brings new engineering and new advancements to the LP-Gas carburetion field. Compact and complete, this unit is 6" in diameter, 4½" deep, and is provided with two fuel outlets for ease of installation. It combines both primary and secondary regulation and incorporates ALGAS two stage heating for stable vaporization. Available with electric or push button primer.

Capacity: 7½ gal. of  
liquid fuel per hour,  
or 75 H.P.

Provides ALGAS ex-  
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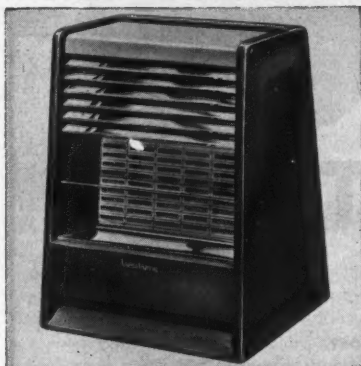
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A brand new radiant heater for any gas—with top and sides cool enough to touch without getting burned.

This safety feature, added to Armstrong high quality workmanship and beauty of design, make it one of the finest unvented circulators ever developed. Body is finished in an attractive new shade called "Mocha-tan". 28" high, 14" deep, 16½" wide for 20,000 B.T.U., 19" wide for 30,000 B.T.U.

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## First See GRIFFITHS for CONVERSION PARTS

We can supply a wide assortment of spuds, orifices and other parts for converting domestic and commercial equipment to any type gas. Also, a complete line of repair parts for all types of gas meters.

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## Positive Leak Prevention! For LP Gas Connections RECTORSEAL

### #2



Thin in the can for quick, easy application — Rectorseal #2 thickens in the joint to a plastic elasticity that assures a leak-proof seal for the life of the connection.

RECTORSEAL #2 is the perfect sealant for all threaded and gasketed LP gas connections. Actual field testing during the past few years proves Rectorseal ideal for anhydrous ammonia connections.

Available in ¼, ½ and 1 pint brush-top cans . . . friction top quarts or gallons.

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## RECTORSEAL #2

MAKING THE L-P GAS INDUSTRY SAFER

city officials and skeleton fire departments from surrounding towns; regulatory officials, insurance men, safety and fire representatives from three states. Little Rock sent representatives of the Arkansas Fire Prevention Association; the National Fire Prevention Bureau; M. L. Blair, chief inspector, and the state fire marshal with equipment men in fire prevention, and J. H. McEuen, deputy state fire marshal. Fort Smith sent W. W. Sandusky, ex-deputy inspector of the boiler inspection division.

Springdale was ideally located for the ABDA demonstration. Through the establishment of the Boston Mountain Fire Patrol with the wide area surrounding Winslow and Mountainburg as operations base, northwest Arkansas has one of the best equipped rural fire-fighting services in the country. This efficient organization is spreading the good news of its achievements to other areas far from modern urban fire-fighting services and inviting all sections to follow what they have done in providing their territory with excellent fire protection.

After dinner and illustrated talks by Carl S. Smalley, executive secretary of the Arkansas Fire Prevention Association, and M. L. Blair, it was the Springdale fire department that took the meeting out to the stock show grounds for a graphic demonstration of snuffing out a butane fire caused by a simulated leaking tank valve.

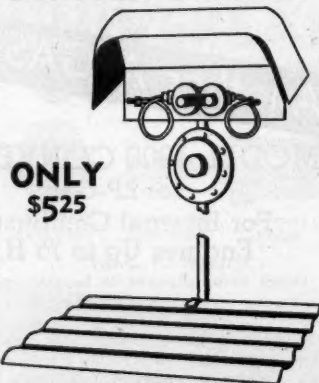
A butane truck was driven to the grounds and a long hose attached to the tank. Tied to the end of the hose was a long steel pipe through which the gas was released and set on fire for the demonstration.

First, the firemen used every known variety of extinguishing equipment for fighting other types of fires. After showing that such methods were futile against butane flames, the firemen then applied special types of L. P. gas extinguishers that snuffed out the flame at the end of the steel pipe like blowing out a candle.

A. T. Emanuel, representative of the Fire Appliance & Supply Co., of Little Rock, was the man demonstrating all types of correct appliances for stopping butane flames. During the entire demonstration every detail of the proceedings was carried to the audience by a public address system.

The demonstration showed the people who live in that rural area that butane fires are no more uncontrollable than other fires and proved to be one of the most educational district meetings of the ABDA.

## SUMMER SPECIAL!



ONLY  
\$525

### HOOD, STAND & BASE COMPLETE

This is an unusual value at a new low price. A sturdily built galvanized hood assembly made to take the roughest handling. RUST-FREE, the hood requires no painting. A 1¼" angle iron stand connected to the solid corrugated asbestos base completes the unit.

Packed 10 to a carton.

If order is placed before July 15th price in lots of 10 will be \$5.19.

Two cylinder regulator  
hookup — \$4.65 extra

## HOME GAS EQUIPMENT CO.

Dept. 2B, 1301 Carnegie Ave.  
Cleveland, Ohio

# New Type Air Heater

Ransome Co., of Emeryville, Calif., has added to its line a new type of generator so designed that a stream of blower air can be heated above 1400°F without injury to the fan.

Previous models were designed to heat and control a stream of air entering the suction side of a fan or blower. If such a stream of air is not heated to an excessive temperature this procedure will not result in an injury to the fan and will result only in a reduction of the CFM efficiency. If the circulated air is not heated above 250°F it is not considered objectionable in the majority of applications, and if provisions are made to protect properly lubricated bearings from hot zones that may exist, a conventional fan should not be subject to damage.

For such applications as drying fruits, grains and lumber where relatively low air temperatures are required, firing directly into the fan has been practiced quite successfully for a number of years. In many cases, however, it has been observed that turbulence in the air stream may interfere with the burner performance and prevent complete combustion. This condition occurs when a high velocity stream of air passing over the burner dips into the flame causing some of the incomplete combustion products to be disturbed, diluted and cooled below the reaction temperature.

Incomplete combustion is usually identified by the prevalence of aldehydes that cause the eyes to smart and is always associated with a loss in heating efficiency. In order to correct this condition where a burner is fired directly into a fan, it has been found that if the burner is enclosed within a cylinder of the proper diameter and adequate length and mounted in line with the air stream, the ill effects of turbulence can usually be dissipated and complete combustion maintained.

At this time the fire box sections of the original heating systems were designed this interference was considered and steps taken to rectify it.

The new models include the same basic features that have proven to be desirable. Additional features however have been incorporated in order that the burner positioned completely within the fire box section can be operated successfully either below or above atmospheric pressure. The im-

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A packaged propane plant as designed, engineered and built by Draketown will provide a completely interchangeable fuel for your natural gas.

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During gas curtailment periods, "turn on" your Draketown Plant — you will find it pays dividends — it's good "Gas Insurance"!

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3/8" and 1/2" O.D.  
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Tubing and  
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The POINT Prevents  
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slotted-cap JET

Barber Burners equipped with the famous Barber "slotted-cap" jets are available in round, oblong, and square shapes with inputs of 7000 to 198000 B. T. U.

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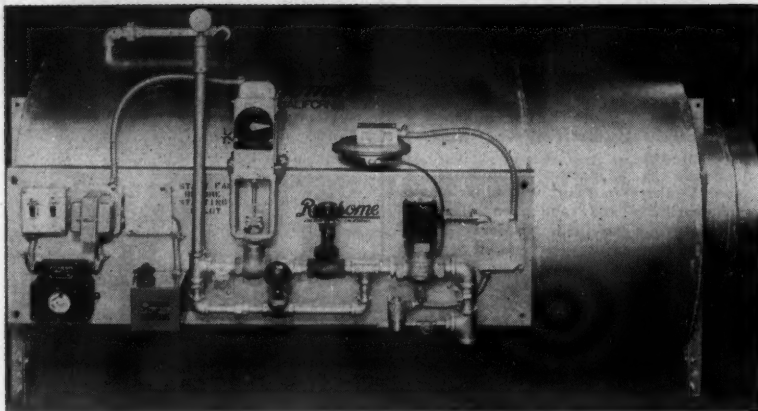
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**GAS EQUIPMENT SUPPLY CO.**  
127 ELLIS ST.  
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New Ransome generator with type No. 3 manifold for modulating temperature control in drying operations.

portance of the new design is that when operated above atmospheric pressure cold air enters the suction side of the blower and is forced into the fire box section, where the air is heated at the blower pressure. Since the blower operates on cold air the

Automatic control up to 1000°F is available.

The manifold and controls of the standard models are mounted on a sheet metal panel. Standard controls include electric ignition, an air-flow switch and a safety control which

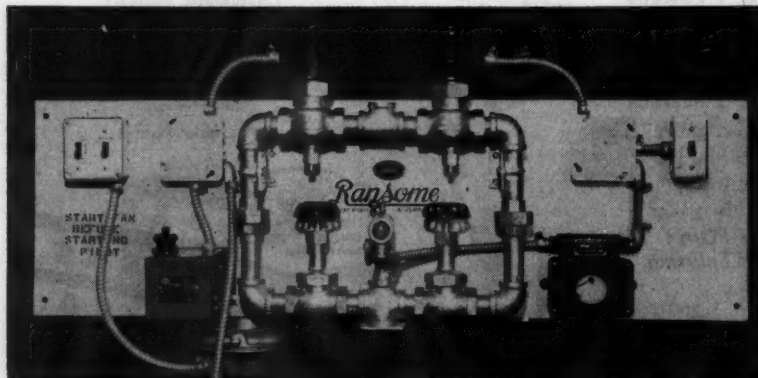


Type #1 Manifold. Off-On Control.

CFM efficiency is maintained at the highest level and the fan is not subjected to high temperatures. This arrangement permits a stream of air to be heated up to at least 1400°F.

automatically shuts off the gas to the pilot and main burner in case of pilot failure.

Three types of manifolds covering different methods of temperature



Type #2 Manifold. High-Low Flame Control.

control are available as follows:

1. **Off-On Control.** A single solenoid installed in the main burner gas line provides this method of control.

2. **High-Low Flame Control.** Two solenoid valves installed in the main burner gas line enables one solenoid to be operated at a set minimum low-flame input and the other solenoid so wired in relation to a temperature controller that it opens and closes in relation to the demand of a temperature controller.

3. **Modulating Control.** A motorized valve installed in the main burner gas line throttles the flow of gas in response to the action of a three wire thermostatic control. This arrangement provides the most accurate means of controlling the air temperatures.

Several sizes of the new models are available. Two sizes to date have proven to be the most popular. One model handles up to 4000 CFM and the other up to 6500 CFM. An input of approximately 1,500,000 Btu per hour is usually required for the smaller size and up to 3,000,000 Btu per hour for the larger.

The models can be operated either on natural or L. P. gas. Converting from one gas to another can be easily and quickly accomplished merely by changing two orifices, one on the pilot and the other on the main burner.

## New LPG Firm Opens In Florida

D. L. Legters, former secretary and treasurer, Associated Gas of Florida, Inc., has announced the formation of a new company to be known as Sure Flame Gas Supply Co., Inc., Tampa.

The new company, with LPG storage facilities of 30,000 gals., will take over the wholesale division of Associated Gas, and has been formed to meet the increasing expansion of LPG business in Florida.

Mr. Legters is president and principal stockholder of the new firm. eral Gas Corp., Baton Rouge; Fred A. Rives, Consolidated Gas Co., Atlanta; R. H. Mahnke, and F. J. Robertson.

## New LPG Production Scheduled In New Mexico

With an estimated annual production of 100 million gals. of LPG, the Wingate Fractionating Plant of the El Paso Natural Gas Co., El Paso, Texas, is expected to begin operation in August or September.

Across the state the company has completed its first underground storage development which will have a capacity of more than 2 million gals.

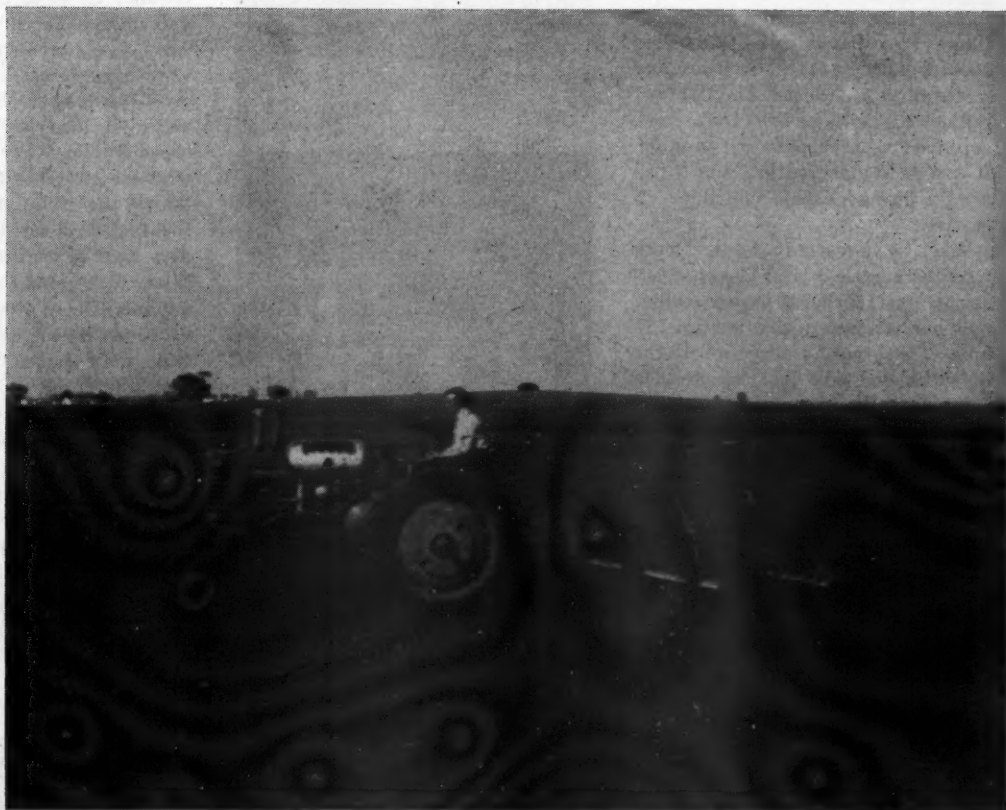


**Butane-Propane**

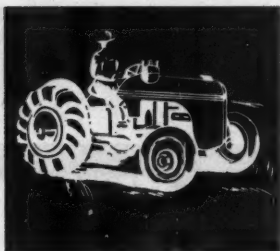


# POWER SECTION

**INSTALLATION • CARBURETION • SERVICING**



Propane powered John Deere Model A tractor, pulling pulverizer on the Dean Brown farm, in the rich Illinois "black lands".



## LPG Is The Medicine For Hard-Starting Tractors

By Carl Abell

After operating an IHC model U-9 industrial engine on propane three hours per day for three years, with no maintenance work except regapping spark plugs and replacing one set of distributor points, Dean Brown, of Indianola, Ill., decided that it was pretty good fuel, and that he should use it in his tractors.

Dean farms 440 acres of rich, black Illinois land, on which he feeds from 1000 to 1500 cattle per year, and raises much of the feed. The U-9 feed grinder engine came from the factory equipped with propane carburetion. It was an engineered job, and it has always started easily, and done its job well.

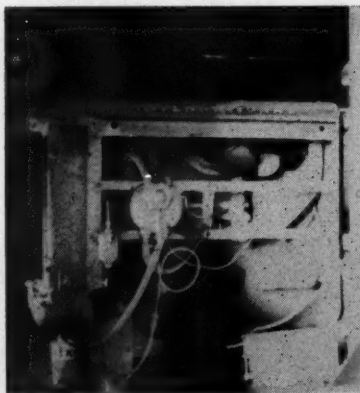
When he converted his John Deere tractors, models A and B, two years ago, tractor carburetion was rather new and strange in that part of Illinois. There wasn't anyone in the neighborhood who had converted a John Deere, and the available equipment consisted of a spud-in connection for the gasoline carburetor, the 100-lb. domestic cylinders for fuel tanks, and the regulator system to bring the fuel pressure down to "nearly zero."

While this equipment had been successful in many cases on 4-cylinder tractors, it gave a good deal of trouble on the John Deeres. It was always hard to start, and on cold mornings it was necessary to tow them, either with the farm jeep or with the third tractor, which was a Farmall WD-9 diesel. The tractors would run all right after they were started, except on cool days when the tanks iced up and ran the mixture too lean. The fuel supplier and carburetor dealer, Tri-County Gas Co., did not at that time have a man who knew how to cure these troubles.

If it had not been for the consistent, satisfactory operation of the feed grinder engine, Dean would have

given up, and gone back to gasoline carburetion on the tractors. For two years he fought it through, while in the meantime the U-9 kept right on grinding feed day after day, still with no mechanical attention; and with only two oil changes a year.

The week that Dean Brown decided he had had enough trouble with the tractors, Paul Arbogast went to work for Tri-County Gas Co. Paul had worked for the Peter Kei-witt—Morrison Knudsen Co. on the construction of the Garrison Dam,



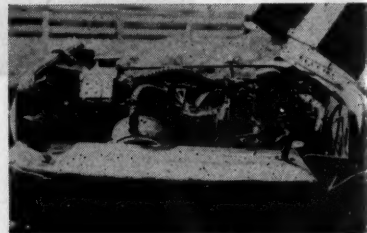
The IHC "W-9" feed grinder engine, which made an LPG convert out of Dean Brown.

in North Dakota. (See Page 139, *Butane-Propane News*, July, 1952.) He had seen some of the biggest earthmoving equipment on earth doing a marvelous job on L. P. gas, and keeping it up year after year. He had serviced the electrical and carburetion equipment on those earthmovers for many months, and had equipped several private cars with propane carburetion after hours and on week ends. He had also converted a few tractors, including John Deeres, for farmers in the surrounding area. He left Garrison Dam with

the firm conviction that there is no tractor that shows such great improvement in operation after a well-made conversion as the John Deere.

The John Deere tractor engine is a peculiar mechanism. It has only two cylinders, of large dimensions, operating on the four cycle principle. It "fires two and skips two," the mechanics says. This sets up some peculiar forces in the intake system, and unless the carburetor and propane regulator respond harmoniously to these forces, one cylinder may give full power, but the other is weak. It needs a regulator of large capacity and extreme sensitivity, with the straightest possible connection to the carburetor, in order that the fuel delivery to the two cylinders may be on time and equalized. When these conditions are provided, the John Deere gives more power on propane, in the same compression ratio, than it does on gasoline. Paul had found out how to equip the Deere engine with Century carburetion to get these results.

During Paul's first week on his new job with Tri-County Gas Co., Dean Brown came in to return the unsatisfactory carburetion equipment that had been on his tractors, and get an adjustment. When they got through talking, he had ordered a 32-gal. tank of the liquid with-



The "engine room" of the farm Jeep is so full of machinery that the regulator had to be mounted upside down. It works beautifully.

drawal type, and a set of Century carburetion equipment. Investigation showed that the Model A tractor had a warped head and needed a valve grind, so the necessary repairs were made while they were waiting for the carburetion equipment to come from the factory. And while the heads were off, they were shaved down .125 in., to give a considerable increase in compression. This work was done in a shop specializing in tractor work, where Dean had taken his tractors in the past when they needed mechanical attention. The mechanic was skeptical about the results of the conversion, but went ahead and completed his part of the job. The new carburetion system was installed, and the tractor went back to work on the farm.

After the previous difficulties, the results were astounding. The engine started easily, and developed considerably more power at the same fuel consumption it had previously shown on gasoline. Pulling three 14-in. bottoms in the heavy black soil, it kept up with a WD-9 diesel handling four plows, and the WD-9 is a much larger and heavier machine. The Deere consumed 5 gals. of propane per hour, while the fuel consumption of the diesel engine was 7 gals.

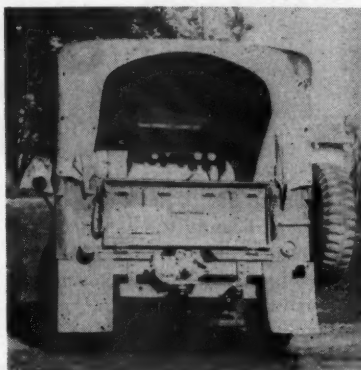
Later in the season the Model A tractor was put on a 10-ft. tandem disc, on a job which Dean describes as "just like plowing leather." In a week's time, operating a 16-hour day, it showed a saving in fuel cost of almost \$50, at a net differential of 9 cents per gal. under the cost of gasoline. Dean expects the saving in fuel to pay off the cost of conversion by the end of the first season.

After two months, the head which had previously been warped developed a crack, and had to be replaced. The change was made by the mechanic who had done the previous work. The head which came off was

so clean that he found it hard to believe it had been used.

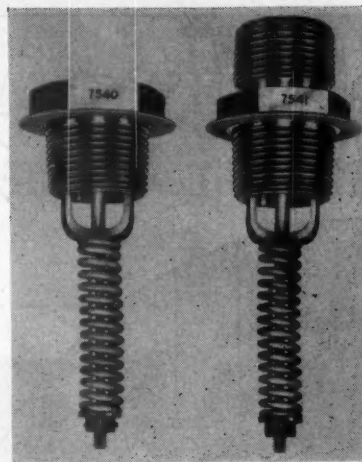
Conversion of the farm Jeep and the John Deere Model B followed shortly after the Model A tractor began its satisfactory service. The Model B leads an easy life, being used principally in hauling feed out to the cattle, which are in pens at various distances from the barns and corn cribs. As Dean says, "It will probably last forever. It would last a long time on gasoline in this work, but two great advantages show up with L. P. gas. It has to be started every day, regardless of weather, and it starts easier now than it did on gasoline when it was new. And the crankcase oil is never dirty."

The next change on the Brown farm will be to trade the WD-9 diesel



The fuel tank of the Jeep fits behind the seat, in perfect balance.

tractor in on a W-9, which will also be equipped to burn propane. "That will get rid of the trouble we now have with dirt in the fuel, and it will end the frequent oil changes in that big diesel crankcase. It should also reduce the cost of engine maintenance, which is quite an item in a diesel engine. I can't forget the fact that the U-9 engine on the feed grinder, which is the same basic engine that will be in the W-9 tractor, has run for five years without a lick of mechanical work. And I used to think that some of the hired men ran their cars on my gasoline when we used it in the tractors. Maybe I was wrong, but it worried me. With tractors running on propane, that's one thing that doesn't bother us. My mind is free to worry about my income tax, which is bigger than it used to be."



### Safety Relief Valves Made For Motor Fuel Tanks

The new RegO Safety Relief Valves No. 7540 and No. 7541 brought out by The Bastian-Blessing Co. and developed specifically for motor fuel containers are designed with the valve mechanism recessed within the container. Maximum protection is thus provided in case the vehicle is involved in a collision. Built to withstand vibrations, the valves are fitted close to the container to cut breakage hazards.

Nos. 7540 and 7541 are identical except that No. 7541 is furnished with a 1-in. male thread to permit connection of a pipe-away conduit so that the relief discharge can be vented as desired.

Both valves are supplied with a 1-in. male TPT inlet and are available with either a 250 psi or 312 psi setting. Rain caps to fit these relief valves may also be purchased.

### No Sales Resistance On This LPG Tractor Sale

Something in the way of a record as a "first" was recently established when Frank Adams walked into the Omak Farm Equipment & Supply Co., Omak, Wash., and ordered a new LPG tractor.

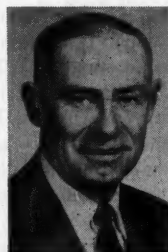
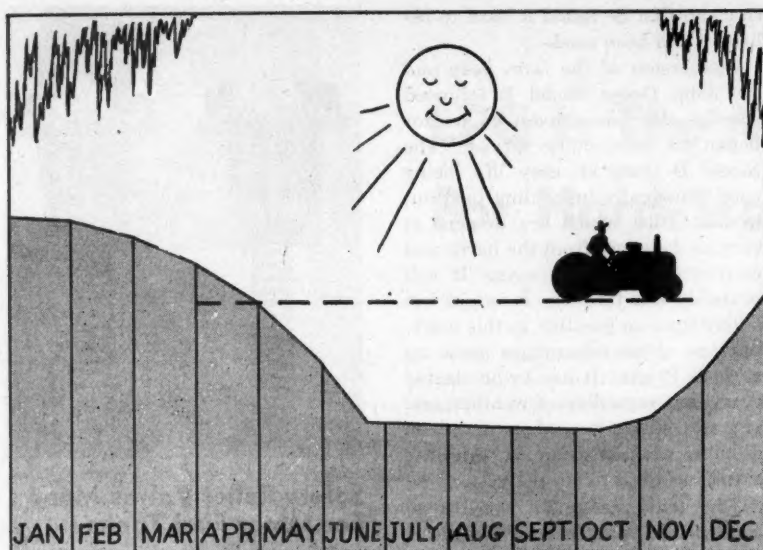
For Mr. Adams, it was his "first" LPG tractor purchase for use in his farming operation; for Ralph Martin, the salesman who took the order, and his firm, it was the "first" LPG tractor sale; and for Okanogan County, Wash., where Mr. Adams' farm is located, it was the "first" LPG tractor to be placed in operation.

The most important point concerning the sale was that Mr. Adams had completely sold himself on the advantages of LPG before he walked into the dealer's store to buy the tractor.



Dean Brown is proud of his converted tractor, which is saving the conversion cost in its first season's operation.





By C. F. Butterworth  
President, Magic Gas Corp.  
Ortonville, Minn.

## The Tractor Can Pull Up Our Summer "Low"

**I**N our part of the country, the winter/summer load ratio is the L. P. gas distributor's 64 dollar question.\* Our winters are long and severe, and furnaces really drink the LPG.

While the demand for the convenience, cleanliness, and comfort of gas heat is increasing, too many operators are forced to turn this business down. Without a summer demand somewhere near in line with winter needs, they just have no place to get the excess fuel needed for these winter heating jobs. I have seen distributors drive their trucks hundreds of miles to beg a little gas.

To help lick this problem, some fuel suppliers are advising the installation of 1000-gal. tanks in every yard. Others are promising future fuel from underground storage at a premium of 2 cents per gal. Both these answers are a costly substitute for an adequate summer demand.

We need to cover every possible demand for fuel which will consume more in the summer than in the winter. Gas fired forges for blacksmith shops come in this category, but one in each town is about all we can expect. Grain dryers are fine, but they operate only in the fall. Trucks and taxis consume lots of fuel, but they generally roll the year 'round. They provide a year-round demand instead of a balancing seasonal load.

The one perfect answer to our 64 dollar question is the tractor load, and our experience has led us to consider most heavily the conversion of tractors that have already been used on gasoline. It is true that seven tractor manufacturers are now producing factory-equipped LPG models, but these are not being sold fast enough to keep up with the demand for L. P. gas heating, and without the summer load we cannot get extra winter fuel. Perhaps aggressive selling at the tractor agencies would speed up sales, but we find that the average tractor dealer hesitates to accept a fuel that is new to him, and which makes it necessary for him to do a little extra work to get it sold. Most implement dealers are doing quite well selling gasoline tractors, and do not see why they should change their methods.

That puts the L. P. gas distributor's problem right back in his own lap. We must lead the way, and our best and easiest means of getting the results that we must have is to convert existing gasoline tractors to do a better job on L. P. gas. In time, this will build a consumer demand that will back up to the implement dealer and force him to change his tactics. Meanwhile, to make the necessity for conversions more imperative, we learn that there were 25% fewer tractors sold in '52 than in '51,

and the situation does not seem to be much better in '53.

We find also that most farmers expect to use a tractor for about 10 years. There are a great many more tractors now in service, with several useful years yet to run, than are being sold this year or next. Let's get the present tractors converted, and fast. Each additional tractor that we convert balances two average domestic heating installations. Both the tractor conversions and the heating installations are generally made for customers who are already being served by us for domestic appliances.

Our company has a particular reason for wanting to make these heating installations and tractor conversions. We own the tanks in our customers' yards. Putting more fuel through those tanks increases our sales volume without increasing our investment. It gives us a lower unit cost, and improves our balance sheet.

Even if we did not own the customer tanks, we would still want to keep our delivery trucks and our drivers working the year 'round. There is no profit in idle machinery or equipment, and the best drivers cannot be kept on jobs that run only part of the year. We must eliminate the slack season. Nothing else does

\*Presented at the 1953 annual meeting of the LPGA, Chicago.



## WHAT'S WRONG WITH THIS PICTURE?

Let's face it. You don't get a reputation for thrift by lighting cigars with \$100 bills. By the same token, *YOU* don't sound very convincing when you tell prospects about LP-Gas economy IF *YOU* DON'T USE IT YOURSELF. It makes good business sense to practice what you preach.

As a supplier or hauler of LP-Gas, you know that this fine fuel assures truckers of greater economy and low, low maintenance cost.

### REO TRUCKS TAKE FULL ADVANTAGE OF LP-GAS CHARACTERISTICS

LP-Gas has characteristics all its own. Reo *Gold Comet* LP-Gas engines are *engineered* and *built* to take full advantage of these characteristics. These outstanding engines squeeze every last ounce of power from every last drop of fuel. What's more, they do it mile after trouble-free mile.

You have a choice of two fine models . . . 100 hp or 142 hp Reo *Gold Comet* LP-Gas engines. They are available in Reo trucks or as replacement power plants for your present vehicles. In addition, conversion kits are available for Reo's 331 and 255 gasoline engines.

### **DOLLAR WISE... SALES WISE**

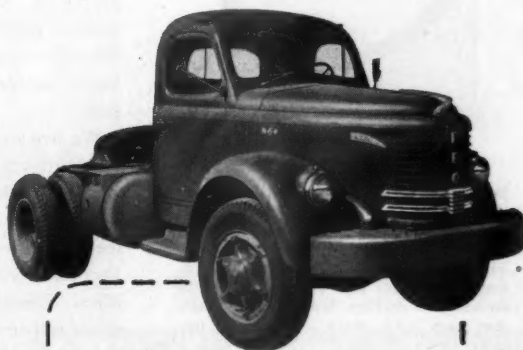
*It's Smart To Haul Your LP-Gas In Reo LP-Gas Powered Trucks*

SEE YOUR REO DEALER FOR  
FULL PARTICULARS, OR WRITE TO:

**REO MOTORS, INC.**

LANSING 20, MICHIGAN

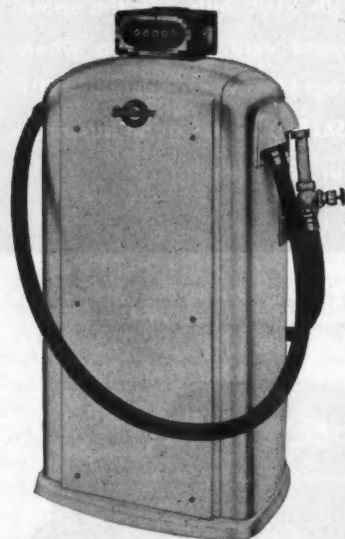
JULY, 1953



### **NOW AVAILABLE**

- Reo trucks with *Gold Comet* LP-Gas engines, 100 hp or 142 hp.
- Reo LP-Gas conversion kits for the 331 and 255 Reo Gasoline engines.
- Complete Reo *Gold Comet* LP-Gas engines for replacing old, tired engines in your present trucks (any make).

# NEW PROFITS FOR BUTANE DEALERS WITH THE NEW TEXOIL Butane-Propane DISPENSER



Is Butane business passing your door every day? Increasing use of LPG as motor truck fuel has opened a NEW avenue for profits for Butane dealers. **TEXOIL Butane—Propane Dispensing Equipment** will help you cash in on this new market. Many of the trucks that pass your place of business use LPG. Be ready for them!

## THERE IS NO ECONOMICAL SUBSTITUTE FOR QUALITY

Sure, it costs money to get in this new LPG business but when you decide to install your equipment, be sure it is the **BEST** and the **SAFEST**! Only by having the finest dispensing equipment will you be certain that the installation will be completely satisfactory. Only safe, satisfactory equipment will be profitable to you. Your investment begins to work for you immediately.

Write today for information without obligation.

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INCORPORATED  
Formerly THE ALAN W. BOWSER  
COMPANY  
1816 COCKRELL STREET  
DALLAS 2, TEXAS  
Telephone HU 2868



Idle equipment never earns money.

it like the conversion of tractors, because as the furnace eases off in the spring, the tractor moves right in, and picks up an even heavier fuel load, until such time as the furnace is again back on the job. From the standpoint of investment and steady operation, could anything be more ideal?

There are other reasons why we like to convert tractor engines. They are the easiest conversion jobs that we know anything about. Fuel tanks are custom-built to slip right in place on the tractor frame, and the carburetion units are easy to mount. The tractor engine operates at comparatively low engine speeds—about half as fast as the truck engine, and this eliminates some of the operating problems. And much of the time the tractor engine is operating at part throttle—a situation where L. P. gas has a decided advantage over gasoline.

We are not the only L. P. gas distributors in our part of the country who are discovering the advantages of tractor conversions. Let me quote from a letter recently received from Emmet Nystrom, of Worthington, Minn. Emmet has been making conversions for a little more than a year. Last spring he made 17 conversions, but this season he is really rolling. He writes: "Tractor conversions are the only salvation in this business. The tractor load really ties the customer to us. We are the only LPG distributors in this area who can give

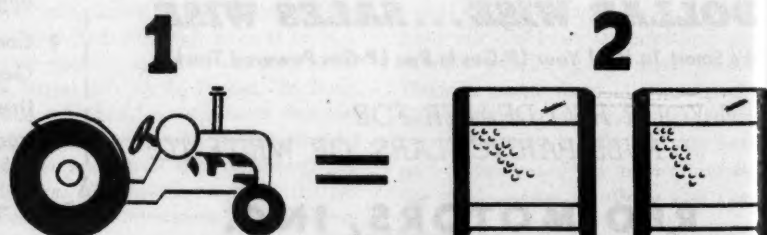
tractor service, and while all our talk about service on appliances sometimes goes by the board, John Farmer really pays attention when we talk about his tractor. That farmer generally pays more attention to his tractor than he does to his wife."

The farmer's tractor fuel bill is generally the biggest single item of expense in the operation of his farm, and there are few farmers who have power enough in their tractors to satisfy them. So when we make a first-class conversion that enables the farmer to do his work in the next gear higher than he formerly used, and at a saving which adds up to the purchase price of a new tractor in a 10-year period, we really have a booster. He wants to put every piece of engine powered equipment on the farm on LPG, and urges his neighbors to do likewise. We cannot hire salesmen like that. We do get plenty of them at no cost, and make a profit on the transaction.

We realize that a good many L. P. gas distributors hesitate to go into carburetion because they regard all carburetors as something mysterious and difficult to understand. Actually the fundamentals of the L. P. gas carburetion are quite similar to the fuel system that supplies a furnace or any other burner.

As gas men, you all know that the limits of combustion of LPG are between 1.5% and 11.0% of fuel in relation to air. Within these limits, the fuel will burn, but the mixture that gives complete and perfect combustion will vary from 3.0% to 4.5%, depending upon the type of LPG being used. Any good carburetor will deliver that mixture.

As in a furnace, the fuel must be delivered to the carburetor (mixer) at a relatively low and constant pressure, and somewhere between the liquid storage and the carburetor, it



For every tractor we convert, we can accept two more domestic heating accounts.



must be vaporized. The pressure in the yard tank, or the tractor tank, is much higher than the pressure at which we use the fuel—possibly 30 psi, or 100 psi, or somewhere in between, depending on temperature. On the yard tank we use a first stage regulator to feed at about 10 psi, and we put a second regulator at the house to feed at 11 in. of water column. There is nothing complicated about that. All gas men understand it.

The "converter," or "regulator," of an LPG carburetion system does exactly what we do in the furnace setup. It contains a first stage regulator which reduces the pressure to about 6 psi, and a second stage regulator which takes it down to about ½ in. of water column. The mechanism looks different, because both regulators are generally enclosed in the same housing.

Now, what do we do about fuel supply? In the furnace installation, we generally have a large tank in the yard, sufficient in size and exposed area to provide vaporization of

the fuel that we need from the heat of the atmosphere. The service outlet connects with the vapor space in the tank, and vaporization is automatic. Up in our country we would not think of trying to operate a furnace from the vapor produced by one 100-lb. cylinder. That's just simple gas fundamentals. We know that on a cool day we could not possibly get enough vapor from the cylinder to operate the furnace.

A medium size tractor will consume as much fuel as a 300,000 Btu furnace. Maybe we can get enough vapor out of a 100-lb. cylinder to operate the tractor on a hot day, but on a cool day we know that the cylinder would ice up, and we could not possibly produce enough vapor to run the engine. But we cannot carry a 500-gal. tank, or even a 250-gal. tank, on a tractor. We must get along with a fuel supply of a size that is practical to carry, and we must supply heat to vaporize the fuel. The most common way of doing this is to run hot water from the engine through the housing which encloses the two

regulators. Thus we vaporize the fuel only as it is needed by the engine, and the heat from the engine water assured us of plenty of vaporized fuel at all times, and in spite of any low atmospheric temperature that may prevail at the time. There is still nothing complicated about this—just common, basic gas fundamentals.

Now, let's get down to the carburetor. Like the burner in a furnace, it consists of a venturi and a metering orifice, by means of which the air and the fuel are measured and mixed in preparation for burning. But here we encounter differences. In the furnace burner, we control the amount of heat by regulating the fuel input by means of a valve. The force of the flowing fuel carries the right amount of primary air through the venturi. In the carburetor, we reverse this procedure, putting a throttle, or valve, in the airstream, and allowing the force of the flowing air to draw the right amount of fuel through the orifice, or jet.

Every good gas man knows how



# 3.6 MILLION\*

## FARM TRACTORS

OFFER

# YOU

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## RICH, NEW

## MARKET FOR

## LP

## GAS SALES




## MARVEL-SCHEBLER

### LPG Carburetion Systems

Look at the facts that make the sales! In 1951 surveys showed nearly 90,000 tractors in the U. S. burning LP gas. Today that figure has nearly tripled. However, with close to four million tractors in use throughout the nation the farm tractor market is still *virtually untouched*. **BOOST FUEL SALES!** Sell LP gas farm tractor conversions. Marvel-Schebler offers you a complete LPG carburetion system for every engine!

1
CONVERSION
3
DOMESTIC INSTALLATION

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\*U. S. Census Bureau 1950

# WANT MORE L-P GAS BUSINESS AND A BALANCED LOAD?

—then you want to make more tractor conversions this summer!

It's really not so difficult as you may think! Naturally every farmer wants to save money and make more profit — and YOU are just the man who can show him HOW! It's simple . . . by converting his tractors to LPG power with

## DIX BUTANE-PROPANE CARBURETION SIMPLIFIED

FOR TRUCKS, TRACTORS, BUSES, TAXIS, PASSENGER CARS, STATIONARY ENGINES, ETC.

Attention Dealers! Send for special catalog and other data describing how you sell more with DIX LPG Carburetion. Don't delay, write or wire today!

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No matter what Make or Model of gasoline equipment —there is a DIX LPG Unit to make the conversion. DIX is simplest of them all—easiest to install—save overhaul! Ask any mechanic, he knows!



important a smooth, properly designed and sized venturi is to the efficient operation of any appliance. If this is true in a burner in which the fuel is floating along from a pressure of only 11-in. water column, how much more important the venturi must be in a carburetor where the airstream is rushing along at speeds as high as 4000 ft. per minute.

In one respect an engine is much like the human body. It *breathes*. You know that when your respiratory system is choked up or restricted, it cannot supply enough air to permit you to do hard manual labor. An engine breathes through the venturi in the carburetor. In a gasoline carburetor, the venturi is, practically speaking, sized for air only. The gasoline is admitted as a liquid, coming in through a jet about the size of a small needle. It occupies almost no space. In adapting a gasoline carburetor to burn LPG, there are two methods commonly employed—we either put a jet sized to carry vaporized gas into the venturi beside the gasoline jet, or we insert an "adapter carburetor" between the gasoline carburetor and the air filter. Now, let's see what happens. In order to feed sufficient gas, which is expanded to about 250 times its liquid volume, the first method requires us to insert either a 5/16-in. or a 3/8-in. tube into the venturi. This tube occupies a relatively high percentage of the throat area of the venturi.

### Power Depends On Air

Since the amount of power that an engine can develop depends on the amount of air it can breathe, we know that anything that interferes with the free flow of air through the venturi will reduce the power that the engine can develop. If we want to use this method of adapting the gasoline carburetor to burn LPG, we must enlarge the venturi, or accept a loss of power due to impaired breathing.

In the second method, we do not put any mechanical obstruction in the gasoline carburetor venturi. The LPG adapter is actually a second carburetor, acting independently of the gasoline carburetor except that it is controlled by the original throttle. It is sized to fit the air horn, and has made ample capacity to supply all the fuel mixture that can pass through the gasoline carburetor ven-

turi. Note that this is fuel mixture, not just air, as it was when operating on gasoline. The fuel mixture contains between 4 and 5% of L. P. gas vapor, by volume, and it reduces the amount of air that can flow through the venturi of the gasoline carburetor proportionately. While this makes no difference whatever at part throttle operation, it does reduce the breathing capacity and the power when we try to get all there is, unless we substitute a larger venturi in the gasoline carburetor to compensate for the reduced air flow. In our experience, operators seldom estimate this loss accurately. They are much more likely to guess it at above 10%. That's human nature, not engineering.

### Straight LPG Carburetor

Based on our experience over the past several years, we have come to prefer a straight L. P. gas carburetor, tailored to fit both the engine and the fuel, to either of the other methods of conversion. This may be partly on account of the way we have trained ourselves to sell, but we have more confidence in this method, and our installations are giving the results that our customers want.

Now, what shall we do to the engine? In 1948 most tractor manufacturers raised their compression ratios, and these engines will do a good job on L. P. gas with the factory ratio. True, raising the compression will increase efficiency, and we sometimes do it. We will not convert an engine "as is" that does not show a gauge reading of at least 100 psi at cranking speed, and we prefer at least 125 psi.

We are fanatical about cold manifolds, and for a very simple reason. You gas men correct for temperature when measuring L. P. gas in liquid form, because you know that temperature affects its volume. Changes of temperature affect the volume of gases even more than that of liquids. A cubic foot of free air, or free LPG vapor, or free fuel mixture, is 13% heavier at 0° F. than it is at 60°, and the power that we get out of our fuel mixture is proportionate to the *weight* of the air that it contains. You can take this as a rule of thumb—for every 10° that you can reduce the temperature of the fuel mixture when it reaches the combustion chamber, you gain 2% in power. The

gasoline manifold is heated to vaporize the gasoline, and that heat is transferred to the air that the engine breathes. The gasoline manifold is also restricted in size to keep its fuel mixture flowing fast, which helps to keep unvaporized fuel suspended in the air. With L. P. gas, you need neither the manifold heat nor the restrictions, so we install special L. P. gas manifolds, and by that simple procedure we gain as much power as is ordinarily gained by raising the compression.

Let's consider for a moment how important this reduction of temperature and enlargement of diameter of manifolds can be. In a recent issue of the Journal of the Society of Automotive Engineers, Fred Zeder, vice president and director of engineering research of the Chrysler Corporation, tells of some tests which his company conducted on the early Fire Power V-8 Chrysler engine. As first used in the Chrysler automobile, with a conventional intake and exhaust system, this engine developed 185 hp. During the tests which Mr. Zeder reports, using the same compression ratio and the same grade of fuel, this engine was able to turn out 310 hp. How did they do it? They threw away the hot manifold and the restricted exhaust system, slightly enlarged the valves, put on an enlarged and unheated intake manifold with four single throat carburetors. They gave that engine a chance to breathe, and it gained 125 hp.

### Eliminate Hot Manifold

This principle is common knowledge to all engine designers, yet in spite of this fact, we still see tractor engines coming out of factories equipped with L. P. gas carburetion, and the same hot intake manifolds used for their gasoline models. One even retains the exhaust heated air cleaner used years ago on their engines built for low grade tractor fuel. It is a wonder that a well done conversion so often out-performs the factory job? And don't think the farmers are not becoming aware of this difference!

Now, how do we go about selling Mr. Farmer?

He naturally wants to know how much it is going to cost to convert his particular tractor. If we should answer immediately, and tell him it would be about \$300, that would stop



Selling is all a matter of perspective. Let's talk about the advantages rather than the cost!

the discussion. We want to show him first how much he will save, and that will make the cost look insignificant. He generally comes to the shop to inquire, and the conversion goes something like this:

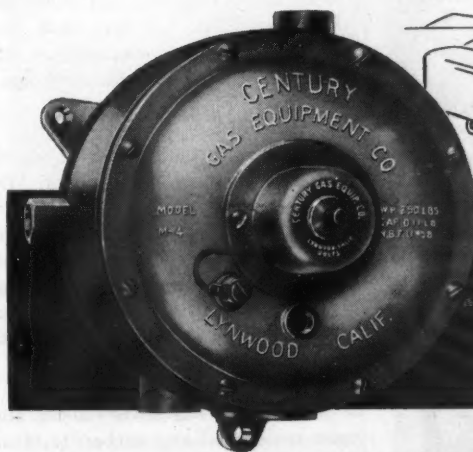
"How much is it going to cost to convert my tractor?"

"What kind of tractor do you have, Joe?"

"A 1951 Farmall M."

"How many years do you figure on using a tractor?"

# PERFECT Vaporization...

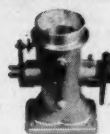


with New  
Improved  
CONVERTER

## SMOOTHER POWER FOR ANY ENGINE!

TO INSURE AN EVEN FLOW OF LP-GAS and smooth, uniform power the new Century Converter is precision-made of an aluminum alloy that exchanges heat with high efficiency. Its cast-in coils eliminate the usual problems of gaskets and loose connections. And the thinner back gasket serves as a safety diaphragm. If for any reason the converter should freeze, this diaphragm takes up the expansion without damage to the coils or casting. The whole unit is light, compact and easy to install. Once installed, there are no adjustments to interfere with efficiency!

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Single or Dual  
Throat Carburetors  
for all  
LP-gas engines.



Fuel lock and  
Strainer protect  
against dirt and  
leakage of fuel.



Oldest Manufacturer  
of LP-Gas Carburetion

SET IT! SEAL IT! FORGET IT!

## CARBURETION for LP-Gas



# M MANCHESTER

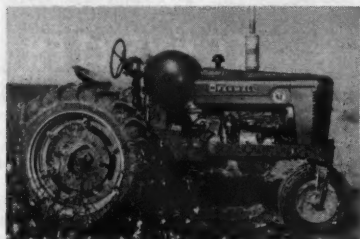
## LPG TANK ASSEMBLIES

...fit perfectly, look neat, and are easy to install—without a lot of drilling or other special work on the job. All the hard work is taken out at the factory by engineering the conversion tanks, brackets and all, to match each of the popular tractor models.

Below are a couple of typical installations on late model tractors.



1953 model John Deere "60" tractor showing a Manchester 35-gallon L.P. Gas tank installed in place of the gasoline tank. Tank mounts low on tractor and is built with a sleeve for the steering shaft. Tanks are also available for the John Deere "50" and "40" models.



1953 model "M" Farmall tractor showing the Manchester 37-gallon L.P. Gas tank which mounts in the same way as on the factory-equipped tractor.

Tank is so designed that it is not necessary to cut the hood or make any changes to present brackets. Filler valve is located on top side of tank for easy filling from the ground.

Write for our Tractor  
Tank Installation Manual

# M MANCHESTER

WELDING & FABRICATING CO.

2880 NORTON AVENUE, LYNNWOOD, CALIFORNIA  
PHONES: NE 1-9357 NE 6-2839

"Generally about 10 years."  
"How much fuel did you use last year?"

"About 3000 gallons." (About the average in our country.)

"Your tank wagon price without state tax was about 21 cents, wasn't it?"

"That's right."

"How often do you change oil?"

"Oh, about every 60 hours."

### \$2 Per Oil Change

"If you used 3000 gallons of gasoline, you operated about 1000 hours, or about 16 oil changes. Average oil change, plus filters, figures over \$2 each, doesn't it?"

"Yes, more than that."

"O. K. Let's just figure it at \$2 to be conservative. Minneapolis Moline has been putting out L. P. gas equipped tractors since 1941, and they recommend changing oil every 60 hours on gasoline, and every 300 hours on LPG. On that basis, you should save 12 oil changes, or \$24. But let's just say \$20 for easy figuring."

"All right."

We have a blackboard handy in the shop, and we write down: "Oil changes, \$20."

"Now, Joe, how much would you say that your engine repairs cost you over the years—that is, average cost per year? The tractor magazines figure it at \$75, but would \$60 be out of line?"

"No, that's about right."

"If your oil was always clean, and you never had any carbon to clean out, would it be fair to expect to cut that in half?"

"Should be more than fair."

"O. K. That would be \$30 saved." (We write it on the board.)

"Joe, does your wife cook with gas?"

"Yes—we use bottles."

"How long does a cylinder last?"

"About two months."

"What do they cost you?"

"Nine dollars."

"That's \$54 for the year. With a tank in your yard, it would cost you slightly over \$20, saving you \$34, but for easy figuring, let's say \$30. Fair?" We write it down.

"Now, Joe, let's get to the big saving. Your LPG for the tractor will cost you 14 cents, which saves you 7 cents per gallon. On 3000 gallons that adds up to \$210." We write it

on the board, and add up the column. It looks like this:

Oil changes .....	\$ 20.00
Engine repairs .....	30.00
Cooking fuel .....	30.00
Engine fuel .....	210.00

Total saving per year.....\$290.00

"You told me, Joe, that you expect to use the tractor about 10 years. It's two years old now; that leaves eight more to go."

We multiply the \$290 by eight, and the answer comes to \$2320.

"You know, Joe, engines don't wear out as fast on LPG as they do on gasoline. You might want to keep this one for a few years longer. Even if you don't, you will save almost enough to buy a new machine by the end of eight years. How about it?"

"Looks good. How soon can you do the job?"

That's the way it goes. When we sell heating or appliances, we are selling comfort or convenience. When we sell tractor conversions, we have something even more important to talk about—money in the pocket-book. It is simple, easy, and it gives us the answer to that \$64 load balance problem.

## Incorrect Mark-up May Cost You Money

By W. F. Schaphorst

Have you ever found yourself talking to a friend like this?

"I made a profit of 100% on an appliance I sold last week."

"Is that so?" comments the friend. "How did you do it?"

"I paid \$80 for the appliance and sold it for \$160—and my customer was tickled pink."

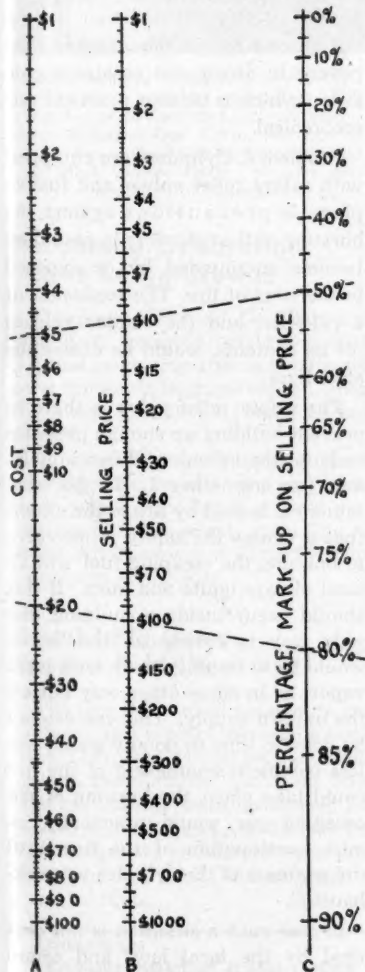
"You should be ashamed of yourself," retorts the friend, "you are engaged in a racket!"

And then you start to wonder if you are engaged in a racket—if you aren't charging too much. And, of course, no one likes to be called a racketeer. But the point is—you did not make a profit of 100%. Your profit was just half that amount—50%.

Many small businessmen make the common mistake of trying to figure their profit percentage on the cost of

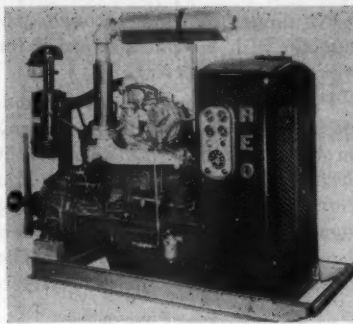
the merchandise they sell. However, the correct mark-up figure can only be obtained by dividing the profit by the selling price.

The accompanying chart will help you determine the mark-up figure correctly. And it serves as a reminder that a mark-up of 100% is impossible.



To determine the correct percentage of mark-up, find the cost in column "A" (see chart) and the selling price in column "B." Then run a straight line through these two points and continue it until it intercepts column "C," at which point you will find the correct mark-up percentage.

If you desire to work with higher figures than those shown on the chart, just add ciphers to raise the amount as necessary and the chart will take care of almost any mark-up problem.



## LPG Engine

This radiator-cooled, power takeoff engine is one of several models in the new line just announced by the Industrial and Marine Engine Division of Reo Motors, Inc. The instrument panel features an alarm light, a change filter warning light, combination starter and ignition switch, tachometer, ammeter, oil pressure, oil temperature and water temperature gauge.



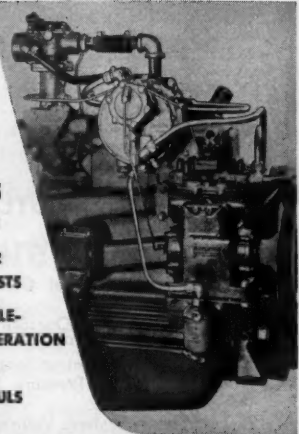
**REO** specifies  
**ENSIGN**  
economical  
dependable  
carburetion

In their new Gold Comet line of LP-Gas operated trucks and tractors, Reo turns to Ensign for top carburetor performance. Here's a guarantee of mirror-smooth power, instant acceleration, flood-free starting... all the big plus-features you gain with Butane-Propane. And what counts just as heavily with a single truck and fleet owners alike, LP-Gas engines with Ensign carburetors cut costs because of fewer overhauls and repair jobs, reduced fuel and lubrication bills, months of steady service on a no-time-out basis.

Ensign advantages such as the time proven economizer, a separate gas-air adjustment for instant starting, and balanced air-fuel ratios are only a few of the many features responsible for Ensign's superior performance. Be sure you, too, specify Ensign—the leader in Butane-Propane carburetion.

### LP-GAS means:

- ① LOWER FUEL COSTS
- ② TROUBLE-FREE OPERATION
- ③ FEWER OVERHAULS



**ENSIGN**

**CARBURETOR COMPANY**

7010 SOUTH ALAMEDA ST. P.O. BOX 229  
MUNTINGTON PARK, CALIFORNIA

Branch Factory: 2330 West 58th Street, Chicago 36, Illinois

## Safety Answers

(Continued from page 76)

manufactured gas the slope should be up to the pilot.) The pilot can always be raised or lowered, generally by bending the fuel tube to place the burner at the correct elevation. Pilot position should always be checked when lighting up a new range, as some manufacturers allow

LPG ranges to come through production with the pilots adjusted for other types of gas.

Problem 5. From the safety standpoint, there do not seem to be any problems involved. Let's look at it from the practical standpoint. If a refrigerator is exposed to freezing temperatures for more than a few hours its contents will freeze. The flame does not keep the gas refriger-

ator warm in cold weather—it reduces temperature all the time. Therefore, in climates having winter temperatures below the temperature you want in your refrigeration compartment, the proper location is inside the house. Down south where there is not enough cold weather to cause trouble from this source, it is all right to put the refrigerator out on the porch, provided that it does not get too hot in the summer. Exposure to direct sun creates a condition which is neither practical nor economical.

Problem 6. Cylinders are equipped with safety relief valves and fusible plugs as precautions against the bursting of the cylinders in case they become surrounded by or exposed to the heat of fire. The explosion of a cylinder, and the sudden release of its contents, would be disastrous anywhere.

The safety relief valve is there to prevent building up enough pressure to burst the cylinder. When a cylinder (or any other L. P. gas container) is heated by fire to the extent that it causes the safety relief valve to operate, the escaping fuel will almost always ignite and burn. If this should occur inside a building, the only way to extinguish the flames would be to smother them with inert vapor, or in some other way cut off the oxygen supply. This can seldom be done in time to do any good. Unless complete smothering of the fire could take place, the burning of the escaping gas would practically insure continuation of the fire until the contents of the cylinder were exhausted.

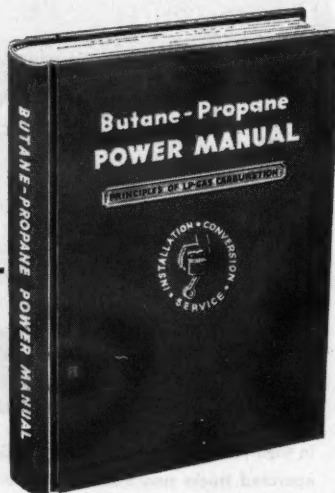
In case such a situation is not covered by the local laws and ordinances, as it should be, the insurance company would no doubt put up a battle based on NFPA Pamphlet 58. In paragraph B.13 (d) it states, "Fuel supply containers shall be gauged and charged only in the open air, or in buildings especially provided for that purpose." All of Section 5.1 of Pamphlet 58 is devoted to the limitations under which it is permissible to store filled, portable ICC containers on the premises of the user. These are rather extensive, and we suggest that you become familiar with them, and see that any industrial customers served by your company likewise understand their provisions.

## The "Know-How" you need for Installations and Conversions

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Published by

**BUTANE-PROPANE News**



Here is the first authoritative guide ever published for the rapidly expanding LPG power market. Basic facts of engines, fuel, and power are given in easy-to-understand language; then careful directions and clear illustrations take you step-by-step through installations, conversions, servicing... everything needed in a practical working manual for practical men. Nearly 5,000 copies of the BUTANE-PROPANE POWER MANUAL have already been sold.

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| 1. The Nature of L. P. Gas                         | 13. Ignition Problems   |
| 2. Basic Engine Facts                              | 14. Tractor Conversions   |
| 3. Basic Facts of Fuel Combustion Engines          | 15. Truck and Bus Conversions                                       |
| 4. Factors Affecting Operating Economy and Power   | 16. Passenger Car and Taxicab Conversions                           |
| 5. L. P. Gas Carburetion Systems                   | 17. Industrial Engine Conversions                                   |
| 6. Regulating Gas Pressure and Temperature         | 18. Installing and Adjusting L. P. Gas Carburetion Systems          |
| 7. Fuel Supply System. Vehicle Tanks and Equipment | 19. Manufacturers' Instructions for Adjusting L. P. Gas Carburetors |
| 8. Natural Gas Carburetion                         | 20. Lubrication of L. P. Gas Engines                                |
| 9. Planning the L. P. Gas Installation             | 21. Trouble Shooting  |
| 10. Checking the Engine's Condition                | 22. Safe Storage and Handling of L. P. Gas                          |
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BUTANE-PROPANE News, 198 S. Alvarado St., Los Ang. 57, Cal.





John Lurker, Sr. (right), Hanover, N. J., is named an honorary member of "The Quarter of A Century Club" of Suburban Propane Gas Corp., Whippany, N. J. He is shown being congratulated by Mark Anton (left), founder and president of Suburban.

## Reopening Celebration Draws Large Crowds

Hutchinson Butane Co., Hutchinson, Kan., recently celebrated with a grand reopening after a two-month interruption in business caused when fire swept an adjoining building last March.

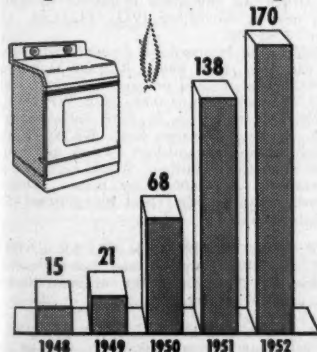
A completely reconditioned store, new stocks of merchandise and many door prizes drew large crowds during the two-day event, according to Boyd Abernathy and Elmo Pierson, co-owners of the firm.

## Rural LPG Users Exceed 8 Million

The use of liquefied petroleum gas on farms is a rapidly increasing business. There are now more than eight million installations. Last year 500,000 gas ranges were produced for use with bottled gas and 267,000 automatic gas water heaters were produced in the U. S. and shipped to rural markets.

### AUTOMATIC-GAS CLOTHES DRYERS GAIN USERS

[SALES IN THOUSANDS OF UNITS]



SOURCE: AMERICAN GAS ASSOCIATION

## You can rely on BEAM for Top Performance

TESTED and APPROVED  
on all Size Engines

Beam equipment is available for all conversions—Trucks, Buses, Automobiles, Tractors, Fork Lifts and Stationary Engines. Carburetors include Adapters, straight L. P. Throttle Bodies and Spud-in Blocks for the type conversion you prefer. Advanced design permits quick installations, simple adjustments and dependable, trouble-free performance.



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2 1/2" Carburetor

Sold through  
authorized Dealers  
and Distributors.

### DEALERS!

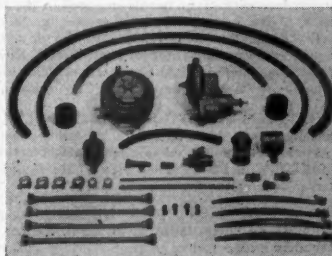
A few choice territories  
are available. Write for  
information today.



for  
Oldsmobile  
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Cadillac

## THE PARKDALE COMPANY

2642 LACY STREET • LOS ANGELES 31, CALIFORNIA



## NATIONAL LIQUID TRACTOR KIT

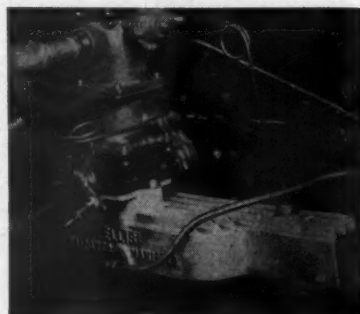
### NATIONAL CARBURETION

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## HELP WANTED

**WANTED: MANUFACTURER'S REPRESENTATIVES** to sell high-quality old line Gas Boilers, Furnaces, Floor Heaters and Conversion Burners on commission. Men with established trade in non-competitive lines will be considered. We have several choice, protected territories available. You must be aggressive and qualified to handle heating sales. Write Box 255, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**MANUFACTURER'S REPRESENTATIVE** contacting L. P. gas dealers and distributors wanted to handle a bottled gas stock tank heater which is a proven item and free of condensation. Number of good territories are open. Write Box 275, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**OUR PREFERENCE IS TO WORK WITH** experienced L. P. G. men. Write us. Oil Industry Employment Service, 405 Tuloma Bldg., Tulsa, Okla.

**SALES REPRESENTATIVE WANTED** for dealer organization in Northeast. Prefer person with complete knowledge of service, sales and bulk plant installation. Beginner with good bottled gas background will be considered. Salary commensurate with previous experience. State experience in letter to Box 285, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**YOUNG, AGGRESSIVE SALES TRAINEE** for L. P. gas and Anhydrous Ammonia System sales. Free to travel, preferably single. Previous sales experience and knowledge of L. P. gas industry helpful. State complete background and sales experience in application to: General Manager of Sales, The J. B. Beard Company, Inc., P.O. Box 1115, Shreveport, Louisiana.

**MAN WITH GENERAL KNOWLEDGE OF** L. P. gas business to handle sales and promotion for gas and appliances. Salary and commission. Propane Gas Service, P.O. Box 105, Danbury, Conn.

**OREGON-LICENSED INSTALLATION** and delivery man. Overtime work necessary when needed. Salary \$350.00 month. State references in letter. McMinnville Gas Co., McMinnville, Oregon.

## SITUATIONS WANTED

**SERVICE AND INSTALLATION SUPERVISOR**, long experience with all types of gases, wishes to make change; can furnish good recommendations. Write Box 280, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**EXPERIENCED GAS MAN DESIRES RESPONSIBLE** position as manager. Thoroughly familiar with all phases of L. P. gas distribution, domestic, commercial, industrial; also general knowledge of utility gas. Capable of handling office, sales, service, training others. Best of references; free to travel. Interview can be arranged. Write Box 290, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

## BUSINESS OPPORTUNITIES OFFERED

**RETAIL BOTTLE AND BULK PLANT** priced to sell. Middle-west. Write Box 300, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**FOR SALE: L.P.G. BUSINESS, WELL** balanced operation, bulk and bottles. Expansion possibilities almost unlimited. In large, rich territory in Pacific Northwest. Little competition. Business well organized and clean. Making money. Adequate storage. Good rolling stock. This is strictly high class and will stand most rigid investigation. Owners retiring because of health and other interests. Write Box 295, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**FOR SALE: L.P.G. BULK AND BOTTLE** business, located in Kansas, established in 1940. At present grossing owners \$1,500.00 monthly on gas sales alone. Business includes two delivery trucks, one pickup, domestic tanks and bottles. All this and including inventory for only \$18,000. Some terms available. Write Box 305, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**ANNOUNCING THE OPENING OF A** new service to the L. P. gas industry. Twenty-three years' experience in the business from truck operator to wholesale distributor. We come in contact with many people engaged in the business. Give us your listings—either to buy or sell L. P. gas properties. We have a staff equipped to go anywhere at anytime. All listings treated as confidential. Satisfaction guaranteed. The George Self Agency, Ponca City, Oklahoma.

**COST HIM \$5.25 TO SELL HIS BOTTLED** gas business. An Ohian did it with a one-time insertion of a 6-line ad in the classified columns of BUTANE-PROPANE News. He found his buyer among the first eight replies!

**GROWING L. P. GAS BUSINESS. AP-** proximately 600 bulk customers—located in Oklahoma near source of supply—3000 gal. storage, two bobtail bulk delivery trucks. Stock of appliances may be purchased if desired. Fuel contract goes with business. May be purchased for inventory. \$10,000.00 will handle. Write Box 310, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**FOR SALE: RETAIL BOTTLE AND BULK** business, 3 trucks, 36,000 gal. storage, about 650 customers, 875,000 gal. yearly; nice location in Kansas. \$20,000.00 down. Write Box 315, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**FOR SALE: ONE OF NICEST BULK OP-** erations in Florida. Large propane bulk storage; two twin tank trucks; pickup truck. Doing a gross business in excess of \$125,000 per year with large summer volume. Sale price \$90,000. Can finance 50%. Owner must retire due to health. Write Box 320, BUTANE-PROPANE News, 198 South Alvarado St., Los Angeles 57, California.

**L. P. GAS BUSINESS IN PROSPEROUS** town in center of rich Utah valley. 17,000 storage on siding. Two bulk, one bottle truck and sales car. Leased tanks, service equipment, appliance showroom, warehouse. Well established profitable business; annual sales \$81,000.00. Price right but substantial down payment required. For particulars write: W. G. Rathmann, 3130 Manchester Blvd., Inglewood, California.

## BUSINESS OPPOR. OFFERED - Cont.

**BULK L. P. GAS BUSINESS FOR SALE** in southern New Mexico. Over 5¼ million (five and three quarter millions) gallons sold in 1952. Majority of sales are retail. Some wholesale. Summer load 1½ to 1 over winter load. This is not a bargain but an investment that is now paying far above average returns. Reason for selling no reflection on the business. Good equipment, trade area, competent employees; firm has excellent customer acceptance and good business reputation. Write Box 325, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, California.

## BUSINESS OPPORTUNITIES WANTED

**YOU CAN FIND A BUYER QUICKLY,** inexpensively, through the classified columns of B-P News. Box 145 got 28 replies to his \$11 ad—less than 40c a reply.

## FOR SALE — TRUCKS AND TRAILERS

**NEW: IMMEDIATE DELIVERY. 1400 WG** U69 propane lightweight twin barrel delivery unit. Mounted on new 1953 2-ton, 2-speed Chevrolet truck. Fill and vapor hose assemblies—Viking Mechanical Seal Pump—power take-off assembly. **READY TO GO FOR \$3845.00** tax paid. Also available at low extra cost: meters—fire extinguisher—motor fuel tank and L. P. carburetor. American Tank & Manufacturing Co., 1936 West Commerce Street, Dallas. Telephone Riverside 9183.

**ONE 5,300 GALLON U69-200 LB. WP TWIN** propane trailer, near new, with Fruehauf underconstruction, sub-frame and vertical supports with or without K-11 I.H.C. tractor. Reply Box 241, Oklahoma City, Okla.

**ONE 4,900 GALLON U69-200 LB. WP TWIN** propane trailer, near new, with standard forge underconstruction, and vertical supports with or without K-11 I.H.C. tractor. Reply Box 241, Oklahoma City, Okla.

## FOR SALE—TWO TRUCKS

**1952 GMC 2 ton, 2 speed, radio, heater, de-** froster. 20,000 miles, 8.25x20 tires. Ensign propane carburetion, with 1400 WG twin Nor-Tex propane tank fully equipped with service hose and vapor hose, KK190 pump, fire extinguishers; truck and equipment in perfect condition; cost new in November 1952: \$4243.80. Our price: \$3450.00.

**1953 L-162 International 2-speed, radio, heat-** er, defroster. 8000 miles; 8.25x20 rear tires; 7.50x20 front. Ensign propane carburetion, with 1250 WG twin propane tank, 200# WP built by Lubbock Machine Co. in 1945, fully equipped with service and vapor hose, KK190 Viking pump and fire extinguishers. Truck and equipment in perfect condition. Would cost new approximately: \$4600.00. Our price: \$3450.00. Jacksboro Butane Co., Box 995, Phone 4594, Jacksboro, Texas.

**FOR SALE: TWIN 3616 WATER CAPAC-** ity U-69—200 lb. w.p. propane trailer. Fruehauf tandem axle 1100x20. \$3000. Midwest Skelgas Co., Lusk, Wyoming.

**1950 INT. 1½-TON TRUCK WITH NEW** 900 gal. single propane tank. \$1,995.00. Can pipe complete at additional cost of \$400.00 to \$500.00. White River Distributors, Inc., Batesville, Ark.

## Classified

### FOR SALE—TRUCKS & TRAILERS—Cont.

**SPECIAL: AMERICAN "BETTER-BILT"** lightweight 1400 water gallon U69 propane twin barrel delivery unit, with Viking Mechanical Seal Pump—Neptune Print-O-Meter—fill and vapor hose assembly—mounted on new 1953 2-tone, 2-speed GMC, 125 hp engine with 8.25 tires—READY FOR SERVICE. PRICED AT \$4475.00 tax paid FOB Dallas. Other sizes available at comparable low cost. American Tank & Manufacturing Co., 1936 W. Commerce Street, Dallas. Telephone Riverside 9183.

**TWO-TON 1946 DODGE TANK TRUCK**—100 WG, meter, pump and 50 ft. hose. Propane carburetor, 40 gal. external tank, two-speed axle. All in good condition; \$1500.00. Jackson Appliance, Marshall, Missouri.

**1952 INT. L-160, 2-TON TRUCK WITH 1400 gal. twin propane tank, pump, meter, hose, carburetor.** Less than 10,000 miles. New price—\$4,875.00, OUR PRICE—\$3,850.00. White River Distributors, Inc., Batesville, Ark.

**3430 GALLON BUTANE TRANSPORT.** Remanufactured by Wendland Mfg. Co. in 1952. Excellent condition, above average rubber. \$2400.00. BUTANE SERVICE COMPANY, BRONTE, TEXAS.

**NEED A WORKHORSE? WE HAVE NEW 1953 Model 353 GMCs;** 2 ton, 2 speed, w/8.25 tires equipped with a 1400 WG Nor-Tex Standard Twin Propane unit. It's skirted, plumbed and perfectly balanced! Complete with recessed fuel tank, Viking KK190 pump with mechanical seal, 50' filler hose, ICC lights and power take-off with spline jack shaft. Finish is aluminum paint over red oxide. Tax paid and ready to go. \$4043.80 FOB North Texas Tank Co., Box 519, Phone Central 5416, Denton, Texas.

**A PACKAGE UNIT SPECIAL! A NEW 1953 2 ton, 2 speed Chevrolet equipped with a 1250 WG Nor-Tex Standard Twin Propane Unit.** It's skirted, plumbed and perfectly balanced! Complete with recessed fuel tank, Viking KK190 pump with mechanical seal, 50' filler hose, ICC lights and power take-off with spline jack shaft. Finish is aluminum paint over red oxide. Tax paid and ready to go \$3919.85 FOB North Texas Tank Co., Box 519, Phone Central 5416, Denton, Texas.

### FOR SALE—TANKS AND CYLINDERS

**AT DEPRECIATED PRICE, 800—60#—4B240 Pressed Steel Tank Company cylinders.** City Gas Service, Inc., Wisconsin Rapids, Wisconsin.

**CYLINDERS ICC, 4B240. BRAND NEW.** 100 lbs. capacity, TW 70 lbs. \$13.95, valve extra. Also 20 lb. capacity with Rego valve complete, \$9.45. Lower prices for large quantity orders. A complete stock of regulators and fittings for immediate shipment. F. O. B. Cleveland, Ohio. Home Gas Equipment Co., 1301 Carnegie Ave., Cleveland 15, Ohio.

**EQUIPMENT FOR SALE? 39 PEOPLE** answered a B-P News classified ad offering for sale a 30,000 gallon storage tank—and 12 of the replies were telegrams.

**IMMEDIATE DELIVERY! NEW 30,000 gallon propane storage tanks.** ASME U-68 complete with ladder and platform. Hartford Inspection Certificates. Pennsylvania shipping point. Act fast if you want tanks at old price. Write Box 330, BUTANE-PROPANE News, 198 S. Alvarado St., Los Angeles 57, California.

### FOR SALE—MISCELLANEOUS

**FOR SALE—IMMEDIATE DELIVERY!** Eureka Smokehouse Burner Assemblies! For meat smoke houses using bottled gas. Completely automatic. Clean filtered smoke. Distributes heat uniformly. Low gas consumption. Automatic temperature and pilot control. Less product shrinkage. Easily installed. Write for descriptive pamphlet. Eureka Equipment Company, P. O. Box 396, Beloit, Wisconsin.

## Classified

### FOR SALE—MISC. - Cont.

**"STOP THAT LEAK". ITS EASY TO FIND** with Leak Detecto Brush. \$3.75 ea. Quantity discounts. Solution, 5-gal. \$7.50. 1-gal. \$1.75. Gas Appliance Stores, Inc. Box 5057, Columbia, S. C.

**COPPER TUBING—3/4" OD X .032 WALL**—50 ft. coils, lots of 10 or more \$4.95 per coil. Less than 10 at 50¢ per coil. Freight prepaid on 20 or more coils. Home Gas Equipment Co., 1301 Carnegie Ave., Cleveland, Ohio.

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